Still Alive With Sir Clive!

ZXir QLive Alive!

The Timex/Sinclair NorthAmerican User Groups Newsletter

Volume 5 Number 3 Autumn '95

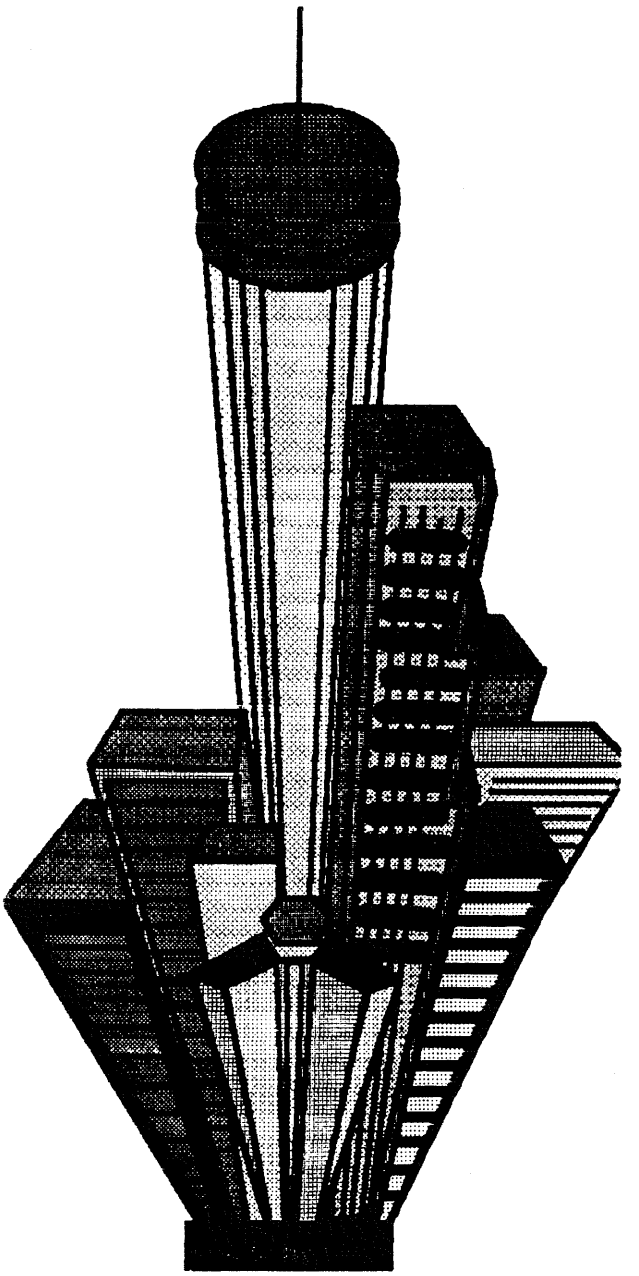
Chairman Donald S. Lambert Auburn, IN

MEMORY MAP

ROUTINES

FILES

SUBROUTINES



T/SNUG Information

T/SNUG

Here is the list of T/SNUG Chairmen and how to contact them. We wish to support the following SIGs:- ZX-80/81, TS-1000, SPECTRUM, TS-2068, TC-2068, Z88 and QL. If you have any questions about any of these fine machines, contact the:

Chairman

Chief Motivator
Donald S. Lambert (ISTUG)

Vice-Chairmen

Tape & JLO PD Library
D. G. Smith
R 415 Stone St.
Johnstown, PA 15906
814 535-6998

Z88 Library
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Orlando, FL 32825
407 380-5124

RMG Enterprises
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14784 S. Quail Grove Cir.
Oregon City, OR 97045
503 655-7484 FAX 503 655-4116

TS-2068
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10984 Collins Pl.
Delta, BC V4C 7E6 Canada
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ZXir QLive Alive!

Is the newsletter of T/SNUG, the Timex/Sinclair North American User Groups, providing news and software support to the T/S community in a volume of four newsletters per year; beginning with the Spring (March) issue.

T/SNUG's main goal is to keep our Magazine, our vendors and our repair service alive for the benefit of T/S users.

These valuable services shall have free advertising space in this user supported Newsletter so that they can see that we are still active out here. We must support their services whenever possible.

Another T/SNUG goal is to unearth titles of all known Public Domain and commercial software available for all Timex/Sinclair machines, building a library and providing lists of that software showing both the source and the availability.

If you have solved a problem or you have a problem in one of your software or hardware, please share it with the rest of us.

TreaSury NoteS

As of August 31, 1995, we have a balance of $1182.82

You can keep T/SNUG alive by an annual contribution of $12 for one **volume** made payable to Abed Kahale. Send check to:-

ABED KAHALE
3343 FLAT ROCK CT
SIERRA VISTA AZ 85635

Back Newsletter copies are available for $0.50 each postpaid.

Article Contributions

Send in your articles by tape or disk and your inputs to:-

DON LAMBERT
ZXir QLive ALive! Newsletter
1301 KIBLINGER PL
AUBURN IN 46706-3010
Phone 219 925-1372

Or by hardcopy to:— Abed Kahale.

GATOR's TWISTED PAIR

We have a 24 hour **BBS** and encourage you to exchange mail and contribute to the Upload Section. Use it and have fun!! (8N1 300-2400 BAUD)

Call 708 632-5558

and Register using your first name, last name and phone number along with a password you won't forget, and ***Write It Down!*** Do not try to do anything else this first time because all the board options will be locked-out.

When you call-in the next time, you will have Level 5 security and be able to enjoy full user privileges. The BBS has smaller sections called conferences. Select "J" for "Join a Conference" to see the different user groups. Select "TIMEX" to get into the Sinclair Section. The mail you then read will only be from other TIMEX Sinclair users but all SIGs share the same bulletins. Use extension .ART for articles, .ADS for ads and .NWS for news when uploading.

For help, contact the SYSOP by leaving a message, mail, e-mail or phone. Bob Swoger SYSOP ---==GATOR==---

Welcome

Leo Moll
&
Martin van der Zwan

Input/Output

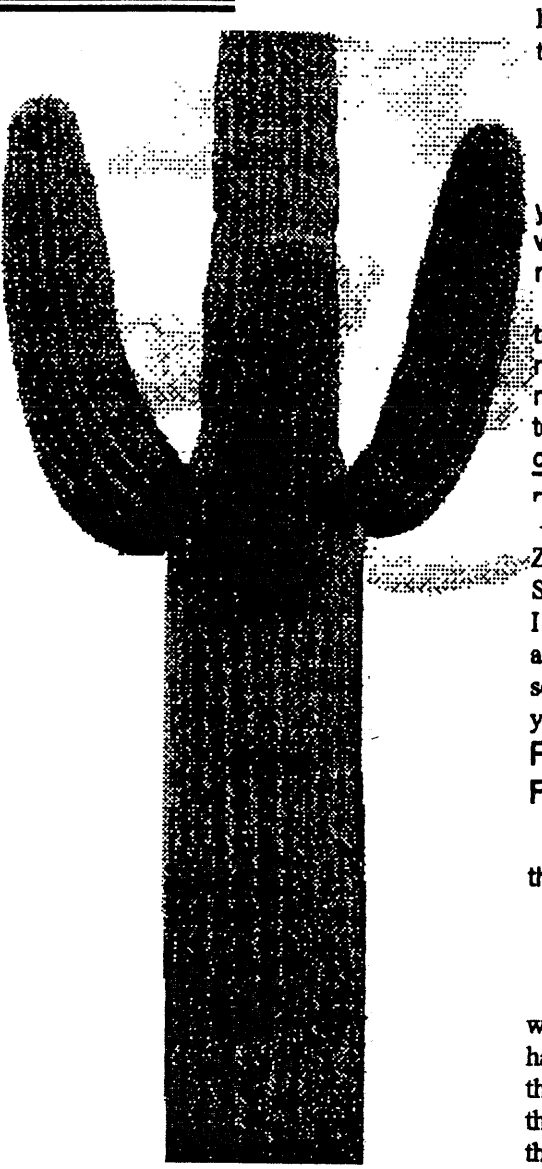
by Abed Kahale

From the Editor

A Change of Place

But Not a Change of Heart

After some 40 years in the Chicago area, I have decided to relocate to a more pleasant environment where four seasons of weather do exist; as the Chicago area had its most oppressive summer to remember it by. With the guidance of my friend Kenton Garrett, a member, who had toured the South West — vacationed, camped and hiked for many years past— I was able to locate and then visit Sierra Vista, population 40,000, 70 miles southeast of Tucson, Arizona at an elevation of 4600 ft. and 12°F cooler than Phoenix. Marvelous weather with 350 days of sunshine a year, low humidity, clean air and friendly neighbors. And Huachuca mountains that are supposed to be snow capped for six months of the year.



It grew out of Fort Huachuca (Wa-chew-ka) the Buffalo Soldier's Post built in 1877 in what is now Cochise County. The Fort is the US center for military electronics with some 16,000 personnel. "One of America's most active and respected military installations that boasts a new dynamic vitality that will carry it into the next century"; it says here.

Don't believe what Bob Swoger says that I am moving to Tombstone, which is 16 miles due east. The main street is authentic and the OK Coral is close by.

The next Newsletter will be from Sierra Vista (Mountain View). Please note the new address.

ABED KAHALE
3343 FLAT ROCK CT
SIERRA VISTA AZ 85635

Thanks for sending the Summer issue and the reminder on the address label that either I or my subscription had EXPIRED! Thankfully it was the later. With best regards,

Robert Hartung
Huntertwon, IN

I'm sure glad to hear that, young man. I hastily scribbled what came to mind before mailing.

What you didn't know is that I spent 2 years at what is now Indiana Institute of Technology, 1952 - 54 and Huntertown was the resort from the big city, Fort Wayne.

Thank you for the nice copy of ZXir QLive Alive! Glad to see that SNUG situation is all straitened out. I would like to insert the enclosed ad under your Unclassified Ads section in the next issue. Thank you for the publication. Regards.

Paul Robinson
Fairfield PA

Welcome aboard Paul and thanks.

I've enclosed three articles for ZQA for the TS2068 (the Towers & Hanoi one, will work for the TS1000 too). They're hard copy, so I assume I'm sending them to the right guy. I've also put them on JLO disk so you can see that they work without having to type in everything. Here is a short description:

Zeus Assembler for JLO V2.63+ Disk Systems

This one adds new functions to Zeus Assembler to make it disk friendly — well, JLO friendly at least. You can load up Zeus Assembler from the disk using LOAD / "ZEUS". This is Zeus after modifications. Type 'C' and enter to see the new commands. The "ZEUSCUST" file on disk is the source code found in the article. It can be LOADed into Zeus using the new LOAD command. You

can list it by typing 'L' and ENTER from within Zeus.

Digitizing and Synthesizing Sound with the Stock 2068

is a short program that plays and digitizes music. You can try it out by LOADing it with LOAD / "DIGSYN". The program will autoRUN, Load In the sample I digitized with LOAD / "sample" CODE and play it using 'RANDOMIZE USR synth'. My recorder is a little too soft to be used unamplified to digitize music, so the sample I gave you isn't the best that can be had using the tape port.

The last one is :

The Towers of Hanoi

which solves a classic problem using methods that are unusual among computer hobbyists.

I'm also wondering if there is anyone out there who would be willing to do layout and prototyping of circuits. I'm a student, which makes me poor, and I can't afford to buy parts and chemicals to construct circuits I've designed. If someone is willing to collaborate, I could submit some circuit projects as well. I finished a bank-switching circuit for the 2068 last year. It costs about $60 in parts and comes with 128K built in. It contains a GAL2OV8, so anyone who would want to try to build it would need a suitable programmer. I'm also designing an 8-bit DAC/ADC board that I plan to use to try out some speech recognition/synthesis and musical instrument emulation projects. For this I need data sheets for three parts: **National Semiconductor MF-10 switched cap. active filter, Analog Devices AD7569 8-bit ADC/DAC, and the AMD AM7204A 4Kx9 FIFO.**

If there is anyone out there who can **help**, I'd very much appreciate it. Thanks,

ALVIN R ALBRECHT
309 CASTLE HALL
3132-24 AVE NW
CALGARY AB T2N 4V2
CANADA

Thank you for the articles, you really didn't have to format them. But I will use them as is.

With regard to layout and prototype, I called Nazir Pashtoon and here is his input:

He does not have a programmer for *GAL* chips but he has one for *PEEL*. You may need two *PEEL* chips instead of one *GAL*. *(bigamy!!?)*

"Point to point wiring is workable in the TS-2068 because of the low frequency involved of 3.5 MHz. You really don't need a circuit board."

Unfortunately, I dumped lots of books, manuals and data sheets about a few weeks before I received your request due to my relocation to Arizona. I did find an update data sheet for the MF-10 however that I am mailing to you.

I would like to thank you for carrying me on your CATUG & T/SNUG user group mailing lists for so long. It has been an interesting experience which I have profited from immensely, and I enjoyed sharing it with your groups.

However, I seem to have lost my interest in the hobby, and so while I am cleaning up here in preparation to moving in the future, I thought I should ask you to take my name off your mailing lists now rather than getting into the eventual change of address hassles later.

Thank you for your attention, I believe the computer user group movement is still a most important form of self-education and way to promote computer literacy, and I hope that you will keep up the good work. Good luck.

William Harmer
Ottawa, Canada

Sorry to hear that you are no longer interested in computers. It has been a very enlightening experience for us guys in Sinclair land.

Rod Gowen is making changes around the house as to how his office and stock room are located. He is also adding and reupholstering portion of his line of business.

He has two LarKen systems, two AERCO systems in stock with 256K RAMDISKs aboard and 7 AERCO printer interfaces.

--==GATOR==--

About my selling the TS-1000, be sure to pull the ad as they are all gone. One person bought all I had left. He has the ZX-81 emulator on his PC. ... With that experience, I believe that I will rely on the ads more than taking stuff to Dayton. I hope that I don't run into any real buys since I would be hard put to explain why I bought all that stuff. My wife doesn't see having nore than one computer and one disk of programs.

Donald Lambert
Auburn, IN

Just writing to say thanks & to tell you how much I enjoyed the recent issue of ZXir QLive Alive! I read on page 8 you plan to build a floppy disk case. Here is an easy approach I have taken.

I do have a store bought metal disk drive case for my number 1 QL. I built very simple, and yet effective, a case for the back-up QL from cardboard, yes cardboard.

I used the cardboard from the back of two 8 ½ X 11 note pads. I cut & sharply folded the cardboard to fit the drives then wrapped them around the drives. Masking tape holds the cardboard case in its necessary shape. To make the case look sharp, the cardboard can be covered with contact paper.

The power supply is a $13 mail order switcher. After adding power & drive cables, I put the power supply back inside the small sturdy cardboard box it came in; sealed that box closed also with masking tape. Try it its easy,

cheap & it works well.

M. H. Binstock
Pittsburgh PA

Don't forget to provide a few holes for ventilation so that it doesn't overheat. As heat is the No.1 enemy of electronics.

Don't know if you can help me or not - but I figured it was worth a shot. Rod Gowen (RMG) couldn't help because he isn't familiar with the Zebra FDD system. If you can't help - can you suggest who I might turn to? Here's my problem:

A few months ago I purchased an Amdek dual disk drive set. Recently I decided to "hook-it-up" to my grandson's 2068 (his Zebra FDD dual disk drive finally "gave-up-the ghost".

However - I soon discovered that the Amdek 34 pin data cable wouldn't mate with anything on the Zebra FDD system - so I come begging for help. As I mentioned - Rod Gowen couldn't help.

Can you tell me where the Amdek cable should connect to the FDD system? ... OR ... can you tell me what I need? ... OR ... whatever?

Thank you again for your past help and for keeping the T/S ship afloat! I mean it!

Fred Henn
Amherst, NY

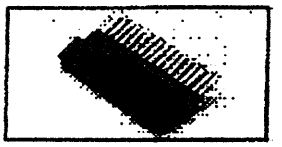
I turned to Nazir Pashtoon for help who is very knowledgeable in the Zebra system. The following is the net result of the discussion.

You stated that the Zebra dual disk drive 'gave-up-the-ghost'. But both drives can not go bad at the same time. What is common to the two drives is the power supply. First check the internal fuses in the controller. Replace if that is the case with the same type fuse which should be available from Radio Shack etc. But, something must have caused the fuses to go, it could be heat and proper ventilation is necessary by adding a few vent holes near the top and bottom of the case.

Nazir tells me that the power supply is very marginal, in other words it is barely adequate for the job, may be you will need a new power supply, switching type intended for PC is fine.

Floppy Connector Adaptor

Convert your 3-1/2" floppy drive's header connector to the common edge connector using this small adaptor. Just plug the adaptor into your drive's 34-pin connector, then plug the floppy cable into the adaptor.



DRIVE-EDGE 1 lb $4.95

Connecting your Amdek dual disk drive with a 34-pin connector to the TS-2068 will require an adapter plug available from :

JDR MICRODEVICES
1850 S 10TH ST
SAN JOSE CA 95112-4108
1-800-538-5000

Part No. DRIVE-EDGE $4.95 + shipping (1lb.)

WELCOME - NETHERLANDS

After my phone call this morning, I write this letter. Thank you for sending your excellent magazine of ZXir QLive Alive!

Hereby I send you $45 for 2 subscriptions and all the back-up issues of your magazine.

Subscriptions are for me and my friend.

Martin van der Zwan
Hague, Netherlands

The back copies are for me. Many thanks.

Leo Moll
Delft, Netherlands

Welcome, or is it welkome, to our community Leo and Martin.

FROM THE CHAIRMAN'S DISK

Donald Lambert

This has been a less productive interval between newsletters than any I ever had. I cannot blame it onto one thing, but the weather unseasonably hot and wet (*Oppressive Heat, it was. Editor*) was one factor and the lack of input from others was another factor and some household projects just seemed to lessen my enthusiasm. I still have on going projects T/S wise but they are not pushing so hard.

Abed asked to include this information about:

FLOPPY DISK DRIVE REPAIRS

$1-$15, consistently reliable since 1983, 2-day avg. turnaround and 6 months warranty.

ISR
2217 DOWNING LN
LEANDER TX 78641
1-800-458-6778

From an ad in Nuts and Volts. I have sent one drive in for repair and was satisfied and have heard from another that they did good work. I called on a drive, to find out why they could not repair it? because there was no speed adjustment pot on the bottom of the drive. The drive I repaired, I sent in a check with estimated costs plus shipping and they returned the surplus moneys. Since the call is free it cost nothing to find out. They DO NOT TELL YOU WHAT JUMPERS TO USE FOR THIS OR THAT

T/S INTERFACE! For that information you will have to ask other T/Sers. Call ISR for a Repair Authorization Number.

That long list of T/S 1000 books that I had for sale is gone. I sold a few and then someone wanted what was left for his IBM ZX-81 emulator. He had called and we agreed on a price and then he said that he would have to wait for his vacation check to pay me. So I agreed to hold for so long and soon afterwards came the check. So I boxed and mailed.

I was asked to copy some LarKen PD disks for a fellow and so I did. I was using DUS and the copy II routine which FORMATs as it copies. I was getting a lot of errors so I took the bad disks and FORMATed them first (not nearly as many errors) and then copied them using the copy II program. No more errors with that copy routine. I was using used disks and expected a few errors but not that many. Using the FORMAT program (on DUS) if the routine seems to be slow it is because there is an error. And if it is repeating a FORMAT, break and restart with another disk.

ZQA is going to experience a new situation. With Abed's move to Arizona will mean that I will gather what material I have and send it to Abed and he will generate the newsletter hardcopy and send it to Bob for printing and mailing. I guess the National concept is even more true. At the moment I wonder if Bob is going to find time to do his part with his busy schedule. Maybe a local person will take care of the mailing.

While I grouched about not having input, in came last minute material from Al Green and Tony Farrell. I don't know why but often all the input is at the last minute. But here it is for Abed to put in the newsletter.

With all the bad weather I do hope that the T/Sers did not loose any computers to storm related damages. There's the bug-a-boo of lightning and power surges, and then the damage of houses torn apart by storms and finally the effects of flooding. One big trouble is that even if one has special insurance and it pays off, where does one find replacements for some of the almost one of a kind equipment?

By the time this gets published, the Dayton ComputerFest will be history. If I see you there, great! If not sorry that I could not see you. 0/0.

This is an excerpt from a letter by Anthony W. Farrell of Australia that was written July 24th 1995. Thought that this would be of interest to the QLers. Also there is a rumor about a hard disk drive for the TS-2068. *Vaporware?*

If you have a hard disk drive that won't work and if you don't value it, this might be a guide to what you can do.

I have just repaired my first hard drive!! I think I wrote that a friend gave me a 20meg hard disk and MFM controller card. (*Tony has an old IBM clone that was given him.*) My plan was to install both hard drives together and have 40meg using the MFM card. Or if I became ambitious I could use the RLL card, configure them to 30meg each and have 64meg.

My first problem came when I tried using FDISK. It said "Error reading hard drive". This made sense because it was an MFM card trying to read RLL data! I also bought a hard drive cable to connect two hard drives together. The chap gave me the wrong cables, it had the cables twisted at the ends for use with floppy drives. I did not know this and had millions of error messages saying "No record found 1/O error drive I", "Uncorrectable ECC errors cyl..", "Correctable ECC errors cyles" and "Address mark not found" but I kept on trying and thinking about the twisted cable problem and the MFM trying to read RLL data and started to make progress and was able to get the gift drive to run on either MFM or RLL card at either 21meg or 32meg.

The old drive kept giving errors and I wondered if I had burnt something out on the drive. I figured I had nothing to loose, so I took the cover off but could not see what looked like a "Head crash". Eventually I tried to tighten the steel bands that connect the stopper motor to the heads, and success!!! The drive reports 100% error free. So all the stories about the drives must be opened in a "Clean Room" are a little exaggerated. But I do not expect the drive to last much longer as I think I got some carborundum grit in it from grinding down the Allen key (wrench) to fit the screw for tightening the belt. I have run the drive for several hours and it now has scratch marks on the top platter surface which it did not have before the grinding. I must give a lot of the credit for my success to a program called "Disk Manager" and diagnostics V4.3 manufactured by Seagate.

I think I had a program by the same name on my hard disk but I lost some of the files when I had my first disk problem. This program lets you configure the disk to different specs and can do all sorts of other clever things like scan the disk for defects and write them to a "flaw.map" I bought the program on a 5¼ floppy at a swap meet for 50 cents.

I now think I know how the steel bands on my drive became stretched. When I had the wrong cable on the drive with the swapped cables I heard a loud knocking sound coming from the drive. I hit escape as quickly as I could but I think the stepper motor was trying to move the heads past the metal stop, and kept hammering away, stretching the bands.

All I know is that now my drive is 100% error free and I have ran it for 4 hours like that. I have it configured for 614 tracks 4 heads and 17 sectors per track with the MFM. Next I want to use the RLL controller and configure it for 4 heads, 614 tracks and 26 sectors per track. Disk Manager has a "verify" feature which verifies all tracks and sectors and it did not find any problem when I configured the 21meg drive as a 32meg with the RLL card. Some told me that if I did this I could wear out the drive motor more

quickly, but I am not convinced of this. It seems to me that the drive might even last longer because, say the drive has 10 meg. on it. If you use MFM then the drive has to use half of its tracks, so the stepper motor has to move from 0 to track 307. Using RLL configured as a 32meg, the 10meg is put down more densely on each track and so it only uses 1/3 of all the tracks, or 204 tracks, So MFM uses 307 tracks and RLL uses 204 tracks to store 10 Meg. It seems to me the drive will last longer using RLL.

Any ideas Don?

Anthony Farrell
Australia

I also received a letter from Al Green on August 7th, 1995. Since it was in condensed print size, I retyped it and hopefully did not make more typos than was there originally. But, I could not copy (reproduce) the five photos that were referenced throughout the letter.
Here are some excerpts. .....

Since the Timex disk controller has 2 serial ports, why can't we use a serial mouse in one of them?

Today's mail is from Jack Dohany. I will print one paragraph that I think you will like.

NEWS: I've figured out how to use a Dallas Smartwatch, no-slot clock/calendar chip in the EXROM socket of the 2068. I've written the software necessary to use the chip. The software comes with documentation that tells where to get the chip and how to install it (easy, no soldering), and how to use the software. I have placed the software and documentation in the public domain, but will charge $5.00 for the time it takes to copy and mail the disk and documentation. J. Dohany

My $5 is on the way.

Sinclairly yours,
Al & Chris Green
Tampa, FL. 0/0.

Jack Dohany's address is under SINCLAIR Resources in the Unclassified Ads section. *Editor*

ZEUS Assembler

for JLO v2.63+ Disk Systems

by Alvin Albrecht

If you are a regular m/c programmer like me, then you can appreciate the value of a good assembler. I like Zeus Assembler plenty, but it has one problem - it's tape based. Having gotten used to the speed and convenience of the JLO disk system, doing anything with Zeus became a chore. So, I took it upon myself to adapt Zeus to the features of the JLO disk system,

LISTing 2 is the result. I should point out that the modifications will work for JLO SAFE V2.63 and higher (those versions with the function dispatcher) and will not work with Zeus Disassembler. The Zeus print utility has been changed to work with the AERCO CPI or JLO CPI and large printer. You can use any of the printer features available from JLO SAFE. To make your new and improved version of Zeus, follow these steps:

1. LOAD Zeus from tape and quit to basic. (*** For those of you with a sense of humor; before quitting to basic, type in "What is the meaning of life ?" at the Zeus prompt EXACTLY - spaces and all but no quotes. Fans of Douglas Adams should get a chuckle. Incidentally, this *feature* is what makes modification of Zeus Assembler possible. Many thanks to the forward thinking Individual at Crystal Computing for doing this for us).
2. Replace LOAD "" CODE in line 1 with LOAD / "zeus" CODE: LOAD / "zeus2" CODE.
3. Insert a disk to SAVE Zeus and ENTER SAVE / "ZEUS" LINE 1.
4. Re-ENTER Zeus, type in LISTing 2 and assemble it.
5. Quit to BASIC and ENTER SAVE / "zeus" CODE 57344,8180: SAVE / "zeus2" CODE 30000,626.

You are done! Zeus works in the normal way but now occupies addresses 30000-30625 and 57344-65523. A new command summary is printed if you type in 'C' and enter. The new commands allow you to LOAD, SAVE, ERASE, CAT, change drives and set printer margin from within Zeus. The CAT command will only list byte files. If you LOAD a file with a LISTing already present in Zeus, the new file will be appended and the whole thing renumbered.

Any talk of improving Zeus would not be complete without mentioning Richard Hurd's "Zeus to ASCII Converter". It was originally published on page 6 of the March/April 1988 issue of Time Design Magazine and, for completeness, I have reproduced it in LISTing 1 just to be sure it is not forgotten. It is an excellent little utility that converts Zeus files to ASCII files that can be LOADed into your favourite word processor and written about in ZXir QLive Alive! Enjoy.

Listing 1. Z_2_M/T

INSTRUCTIONS

1. Load Zeus Assembler
2. Enter this little basic listing:

```
5 REM HERE TO ENTER CODE

10 LET t=0
20 FOR f=61431 TO 61624
30 IF t=0 THEN PRINT f;: LET t=6
40 INPUT n
50 POKE f,n: PRINT TAB t;n;
60 LET t=t+4: IF t>=29 THEN PRINT: LET t=0
70 NEXT f
80 STOP
```

3. Run this program and enter the 194 bytes listed below:

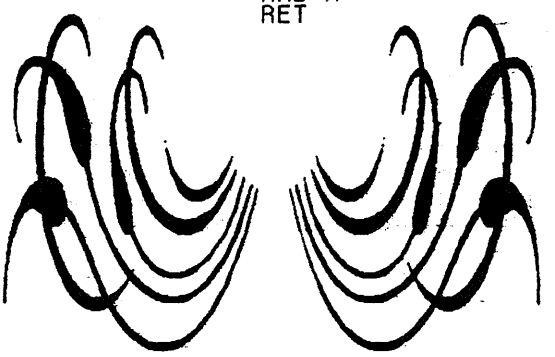
```
61431  33  0   128 17  79  183
61437  35  35  126 254 10  40
61443  41  254 128 48  47  254
61449  0   40  4   18  19  24
61455  238 62  13  18  35  19
61461  126 254 255 32  7   35
61467  126 254 255 40  70  43
61473  62  237 186 32  215 62
61479  255 187 48  59  24  208
61485  35  70  62  32  18  19
61491  16  252 24  199 203 191
61497  14  0   229 33  87  238
61503  185 40  18  245 35  126
61509  254 8   40  6   254 10
61515  40  2   24  244 241 12
61521  35  24  235 126 18  35
61527  126 19  254 8   40  6
61533  254 10  40  2   24  241
61539  225 24  152 235 17  79
61545  183 167 237 82  229 193
61551  201 176 185 112 126 42
61557  114 240 6   64  62  32
61563  119 35  16  252 42  112
61569  240 1   0   0   126 254
61575  13  40  8   254 255 40
61581  31  12  35  24  243 35
61587  229 237 91  114 240 42
61593  112 240 237 176 42  114
61599  240 1   64  0   9   34
61605  114 240 225 34  112 240
61611  24  199 42  114 240 1
61617  48  117 183 237 66  229
61623  193 201
```

4. Save it with SAVE /"Z_2_M/T" CODE 61015,610
5. Type in the following basic program and save it with SAVE /"Z_2_M/T" LINE 1.

```
 5 REM  ZEUS SOURCE CODE TO
          ASC II TEXT
           CONVERTER
10 REM (C) 1987 Richard Hurd
15 REM March/April 1988
       Time Designs Mag.
20 LOAD /"Z_2_M/T"CODE
25 CLS : PRINT "Zeus Source file to ASC II
text converter."
30 INPUT "Please enter filename containing
source code: "; LINE a$
35 LOAD /a$CODE 32768
40 LET length=USR 61431: POKE
46927+length,255
45 INPUT "Destination filename? "; LINE a$
50 SAVE /a$CODE 46927,length
```

```
;*************************
;     ZEUS CUSTOMIZER
;
;   SEP 1989  ALBRECHT
;    Revised OCT 1992
;
;*** FOR JLO SAFE V2.63
;     DISK AND LARGE
;     PRINTERS
;*************************
;
;boot-up message
;
ORG 57393
DEFM /ZEUS Z80 ASSEMBLER/
DEFB 13,127
DEFM / 1983 Crystal/
DEFB 13
DEFM /"C" for mods /
DEFM /list /
DEFB 13,13,0
;
;zeus 2.1 prompt
;
ORG 57520
DEFM /2.1/
;
;reset initial tabs
;
ORG 63578
DEFM /                /
DEFB "1
ORG 63545
DEFM /                /
DEFB "1
;
;accept zeus commands
;with letters A to ^
;
ORG 58548
DEFB 95
;
;"I" command is now the
;fifth command in the
;command list
;
ORG 57534
DEFB 5
;
;command list
;
ORG 60875
DEFB "A,8,"C,8,"D,8
DEFB "F,8,"I,8,"L,8,"M
DEFB "A,"A,8,"M,8,"N,8
DEFB "O,8,"P,8,"Q,8,"R,8
DEFB "S,8,"T,8,"X,8
DEFB 94,8,12
;
;change address of
;command lookup table
;
ORG 57611
DEFW 60912
;
;command lookup table
;
ORG 60912
DEFB 1,14,0,140,235
DEFB 0
DEFW CONFIGURE
DEFB 2,255,255,0,0,244
DEFB 227
DEFB 3,0,0,255,255,14,0
DEFB 23,228,2,10,0,10,0
DEFB 181,227
DEFB 3,0,0,255,255,14,0
DEFB 188,227,1,8,0
DEFW MARGIN
DEFB 0,162,241,1,0,128
DEFB 74,228,1,0,128,79
DEFB 228,1,0,0,#30,#F1
DEFB 0,#66,237,3,10,0,10
DEFB 0,0,0,203,227
DEFB 1,14,0,93,228,0
DEFB 181,237,0,70,228,0
DEFW DISKCOM
;
;second command table
;holding new commands
;
EXCOM     DEFB "C,8,"D,8
DEFB "E,8,"L,8,"S,8,12
;3 bytes left for more
;commands
;
;second command lookup
;table
;
ORG 30000
EXDET     DEFB 0
DEFW CAT
DEFB 1,0,0
DEFW DRIVE
DEFB 0
DEFW ERASE
DEFB 0
DEFW LOAD
DEFB 0
DEFW SAVE
;
;interprets commands
;following "^"
;
DISKCOM   CALL 10
          LD A,(#1FFF)
          CP #63
          JR C,badversn
          INC A
          JR Z,badversn
          LD A,(8)
          LD DE,#FE00
          CALL 58612
          CALL 58611
          SCF
          RET Z
          LD HL,EXCOM
          LD B,0
          CALL 58068
          RET C
          PUSH DE
          CALL 58612
          LD (64793),DE
          LD HL,EXDET
          JP 57620
badversn  LD A,(8)
          CALL #E4E3
DEFB 13
DEFM /*** JLO 2.63+ ONLY/
DEFM / ***/
DEFB 13,0
          AND A
          RET
;
LOAD      CALL 10
          CALL filedata
          CCF
          JP C,exit
          LD A,2
          LD (#3F1B),A
          LD A,#FF
          LD (#378D),A
          LD DE,(64768)
          LD (#372D),DE
          LD HL,(64770)
          SBC HL,DE
          JR C,loadit
          LD HL,(64770)
          DEC HL
          LD (#372D),HL
loadit    RST #28
          DEFB #01
          CCF
          JR C,exit
          LD A,(8)
          EI
          LD HL,10
          LD (64793),HL
          LD (64795),HL
          LD L,0
          LD (64797),HL
          CALL 58315
          LD HL,(64768)
          LD (64793),HL
          JP 58447
;
SAVE      CALL 10
          CALL filedata
          JR NC,oksave
          LD A,(8)
          CALL #E4E3
DEFM /Overwrite?/
DEFB 13,0
confirm1  CALL #F652
          RES 5,A
          CP "Y
          JR Z,oksave1
          CP "N
          JR NZ,confirm1
          RET
oksave1   CALL 10
oksave    LD DE,(64768)
          LD (#372D),DE
          LD HL,(64770)
          SBC HL,DE
          JR C,err1
          INC HL
          INC HL
          LD (#372B),HL
          LD A,"/
          LD (#377A),A
          XOR A
          LD (#378D),A
          RST #28
          DEFB #01
          CCF
          JR exit
err1      SCF
exit      RST #18
;
ERASE     CALL 10
          CALL filedata
          CCF
          JR C,exit
          LD A,(8)
          CALL #E4E3
DEFM /Sure?/
DEFB 13,0
confirm2  CALL #F652
          RES 5,A
          CP "Y
          JR Z,okerase
          CP "N
          JR NZ,confirm2
          RET
okerase   CALL 10
          RST #28
          DEFB #02
```

```
          CCF
          RST #18
;
CAT       LD A,"-
          LD B,27
          CALL prchars
          CALL #E4E3
DEFB 13
DEFM /ZEUS FILES/
DEFB 13,13
DEFM /DISK NAME: /
DEFB 0
          CALL 10
          RST #28
          DEFB #08
          LD HL,#2610
          LD B,16
          CALL prhl
          LD A,(#3780)
          PUSH AF
          LD A,(8)
          CALL #E4E3
DEFB 13
DEFM /drive #/
DEFB 0
          POP AF
          CALL #F2DF
          CALL #E4E3
DEFB 13,13
DEFM /FILENAME       /
DEFM /SIZE/
DEFB 13,0
          LD A,"-
          LD B,27
          CALL prchars
          LD A,13
          CALL #F503
          CALL 10
          LD HL,#262A
          LD B,12
catloop   PUSH HL
          LD DE,(#2608)
          SBC HL,DE
          POP HL
          JR NC,donecat
          LD A,(HL)
          CP 3
          JR NZ,nextentry
          PUSH BC
          PUSH HL
          LD DE,65526
          ADD HL,DE
          LD B,10
          CALL prhl
          LD A,(8)
          LD A,"
          LD B,4
          CALL prchars
          CALL 10
          POP HL
          PUSH HL
          INC HL
          LD E,(HL)
          INC HL
          LD D,(HL)
          EX DE,HL
          LD A,(8)
          CALL #E5A3
          LD A,13
          CALL #F503
          CALL 10
          POP HL
          POP BC
          DEC B
nextentry LD DE,20
          ADD HL,DE
          LD A,B
          OR A
          JR NZ,catloop
          PUSH HL
          LD A,(8)
          CALL #F652
          CALL 10
          POP HL
          LD B,20
          JR catloop
donecat   LD HL,(#2604)
          PUSH HL
          LD A,(8)
          CALL #E4E3
DEFB 13
DEFM /CAPACITY: /
DEFB 0
          POP HL
          CALL #E5A3
          CALL #E4E3
DEFM /CYLS/
DEFB 13,0
          AND A
          RET
prhl      LD A,(HL)
          PUSH BC
          PUSH HL
          PUSH AF
          LD A,(8)
          POP AF
          CALL #F503
          CALL 10
          POP HL
          POP BC
          INC HL
          DJNZ prhl
          RET
prchars   PUSH BC
          PUSH AF
          CALL #F503
          POP AF
          POP BC
          DJNZ prchars
          RET
;
filedata  LD DE,(64793)
          LD HL,#3720
          LD B,10
namelp    LD A,(DE)
          OR A
          JR Z,spaces
          LD (HL),A
          INC DE
          INC HL
          DJNZ namelp
          JR type
spaces    LD (HL),32
          INC HL
          DJNZ spaces
type      LD (HL),3
          RST #28
          DEFB #08
          LD DE,#3720
          LD HL,#2620
          RST #28
          DEFB #18
          RET
;
DRIVE     CALL 10
          LD A,(64793)
          CP 4
          CCF
          CALL C,#18
          LD (#3780),A
          RST #28
          DEFB #12
          OUT (#B7),A
          RST #18
;
ORG 63521
LPRINT    PUSH AF
          CALL 10
          POP  AF
          RST #28
          DEFB #11
          RST #18
;
;sets printer's left
;margin. Command in form:
;  27,77,margin
;epson command
;
ORG 65280
MARGIN    LD A,27
          CALL LPRINT
          LD A,"M
          CALL LPRINT
          LD A,(64793)
          CALL LPRINT
          RET
;
;shows what equipment
;modifications were
;made for
;
CONFIGURE CALL #E4E3
  DEFM /CONFIG:/
  DEFB 13
  DEFM /- AERCO CPI w./
  DEFM /LARGE PTR/
  DEFB 13
  DEFM /- JLO SAFE V2.63/
  DEFM /+ DISK/
  DEFB 13,13
  DEFM /COMMANDS:/
  DEFB 13
  DEFM /  C     Config/
  DEFB 13
  DEFM /MAR x  Ptr marg/
  DEFM /in/
  DEFB 13,32,94
  DEFM /C     Cats /
  DEFM /byte files/
  DEFB 13,32,94
  DEFM /D x  Active/
  DEFM / drive/
  DEFB 13,32,94
  DEFM /E fl Erases/
  DEFM / file/
  DEFB 13,32,94
  DEFM /L fl Loads /
  DEFM /file/
  DEFB 13,32,94
  DEFM /S fl Saves /
  DEFM /file/
  DEFB 13,13
  DEFM /OCTOBER 1992 /
  DEFM /ALBRECHT/
  DEFB 13,0
          AND A
          RET
```



THE TOWERS OF HANOI

by Alvin Albrecht

The Towers of Hanoi problem is a classic in computer science and has special significance to all the mystics out there. As legend has it, at the creation of the world, buddhist monks in Viet Nam were given three needles, one of which had 64 disks stacked on it. Each disk was slightly smaller than the one underneath it. Their task was to move all 64 disks from that needle to the third needle following certain rules. The first rule was that only one disk could be moved at a time. The second rule was that a larger disk could not rest on a smaller one. The monks were told that when they had finished the task, the world would end. Figure 1 shows the set up.

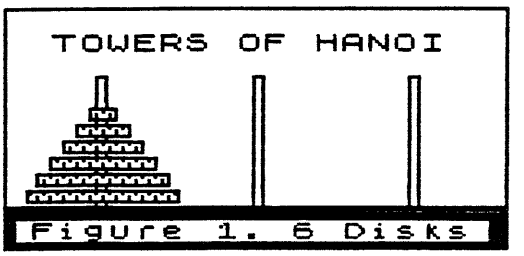


Figure 1. 6 Disks

The program in listing 1 will find a solution to the problem using the computer. The variable "n" in line 10 sets the number of disks on the needle and is initially set to 3 (the monks' task would mean setting n to 64, but as you will see later, you would be very old indeed before you got a solution from the computer). You might want to run the program and follow the solution for n=3 to gain an appreciation for the problem. The Towers of Hanoi puzzle belongs to a class of problems whose closed form solution is either very difficult or impossible to find. Instead, these types of problems are solved using "divide and conquer": the idea that a complex problem is easier to solve if it is broken into many simpler problems. Other important applications of this technique include compilers, efficient sorting algorithms (like quicksort) and artificial intelligence.

To see how divide and conquer is applied here, consider the monks' formidable task. It can be summarized as Move(64,1,3,2) meaning move 64 disks from needle 1 to needle 3 using needle 2 as temporary holding place. The problem is moved closer to solution by following three steps:

```
        * Move(63,1,2,3)
* Move disk from needle 1 to needle 3
        * Move(63,2,3,1)
```

Notice that instead of having to find a way to move 64 disks once, now we just have to find a way to move 63 disks twice. How do we move 63 disks? Apply the same three steps (the case below is for Move(63,1,2,3)).

```
        * Move(62,1,3,2)
* Move a disk from needle 1 to needle 2
        * Move(62,3,2,1)
```

This algorithm can be applied repeatedly until we are left with the trivial move: moving a single disk from one needle to another. Our algorithm can be summarized as follows:

```
Algorithm Move(n,a,b,c)
   * if n=1 move a disk from a to b
        return
   * Move(n-1,a,c,b)
   * move a disk from a to b
   * Move(n-1,c,b,a)
   * Return
```

The monks' task would be initiated by using Move(64,1,3,2). You can check that neither of the rules are violated by this algorithm.

The algorithm given above is known as a recursive algorithm because it uses itself to solve a problem. Recursive algorithms require subroutines to be re-entrant. This means that when a subroutine is called, it must remember all its variables when it returns. BASIC does not support this. Subroutines are called and returned from simply enough with GO SUB and RETURN, but any variables changed are changed forever. To get around this, the BASIC version of the algorithm must remember all important variables in an array. Check out listing 1 to see how this is done.

Now for those interested in how long we have on this Earth, it can be shown that the number of moves required to move n disks is given by 2^n-1. So, for example, to move 4 disks from needle 1 to needle 3 requires 15 moves. The monks' task, one the other hand, requires 1.84×10^{19} moves! If you assume the monks are very dextrous and can make a move once a second, they will take 584.5 billion years to finish. Astronomers estimate the age of the universe to be 10 billion years, so you can see that we have a long way to go yet!

DIGITIZING AND SYNTHESIZING SOUND WITH THE STOCK 2068

by Alvin Albrecht

This is a little program that allows you to digitize and synthesize music and speech through the tape port. The duration of signal that can be stored will depend on the mean frequency of the input signal and the amount of available memory. If you make most of the 2068's memory available, you will likely be able to catch a seven second sound bite. You won't be able to record studio quality sound because the hardware that is used to record the sound (the tape port) is effectively a 1 bit ADC. For comparison, digital telephony uses compressed 8 bit converters - 128 times better, your 2068's sound chip uses 4 bit DACs - 8 times better, and a CD player is in the 16 bit business - 32000 times better. The problem of only having a 1 bit ADC causes the reproduced sound to seem very noisy. Unfortunately, because the samples are only 1 bit, it is hopeless to eliminate the noise using digital signal processing methods. For the technical audience: the digitizer has a sampling rate of about 64kHz and the 2068's audio circuitry has a bandwidth of 11kHz, which is plenty for any non-studio quality audio signal.

With all the boring chatter out of the way, we can get to it. Type in listing 1, save it and run it. The machine code will be poked into the REM statement, which makes the program unlistable. Don't panic; just use LIST 2 instead. If you want to include the digitizer in your own programs, you must have this REM statement as the first line. To digitize a sound, record the sound on tape and play it to the computer as if you were loading a program. Enter: "RANDOMIZE USR digit" to record. To synthesize it, enter: "RANDOMIZE USR synth". It's as simple as that. The digitized signal is assumed to occupy an address range stored at addresses given by the BASIC variables "begin" and "end". If you plan to use the digitizer in your own programs, you must make sure that the digitizer does not wipe out your program by POKEing appropriate values into addresses "begin" and "end". Here is an example: To store the signal in addresses 40000 to 50000, include the following lines of BASIC.

```
  1 REM unlistable m/c
  2 LET digit=26719: LET synth
=26778
  3 LET begin=26715: LET end=2
6717
  5 DEF FN h(x)=INT (x/256)
 10 DEF FN l(x)=x-256*FN h(x)

399 POKE begin,FN l(40000): PO
KE (begin+1),FN h(40000)
400 POKE end,FN l(50000-2): PO
KE (end+1),FN h(50000-2)
```

For those who are interested, listing 2 contains the digitizer source code. The digitizer works simply by testing bit 6 of port 254 (the tape port). It alternately stores a 16 bit number denoting the duration of a "1" at the port and a "0" at the port. The synthesizer works in the same way by writing "1s" and "0s" alternately to bit 4 of port 254 (the BEEP bit). At first glance, it may seem that I'm off my rocker since there seems to be a lot of useless instructions in the code, but if you study the code more closely, you will see that they are necessary to keep the digitize and synthesize subroutines synchronized.

LISTing 1. Towers of Hanoi BASIC Program

```
5   REM TOWERS OF HANOI      05/1995 Albrecht
10  LET n=3: DIM s(4*n): LET stack=1: LET step=0
15  CLS: PRINT "TOWERS OF HANOI - " ;n; "DISKS"''
20  LET from=1: LET to=3: LET using=2
25  GO SUB 200: GO SUB 100
30  STOP
100 REM MOVE (n,from,to,using)
105 IF n=1 THEN GO SUB 300: GO SUB 250: RETURN
110 GO SUB 200; LET n=n-1; LET temp=using: LET
    using=to; LET to=temp: GO SUB 100
115 GO SUB 300
120 GO SUB 200: LET n=n-1: LET temp=using: LET
    using=from: LET from=temp: GO SUB 100
125 GO SUB 250: RETURN
200 REM PUSH
205 LET s(stack)=n: LET s(stack+1)=from: LET
    s(stack+2)=to: LET s(stack+3)=using: LET
    stack=stack+4: RETURN
250 REM POP
255 LET using=s(stack-1): LET to=s(stack-2): LET
    from=s(stack-3): LET n=s(stack-4): LET stack=stack-4:
    RETURN
300 REM MOVE DISK
305 LET step=step+1
310 PRINT step;TAB 6; "Move a disk from " ;from; "to"; to:
    RETURN
```

Listing 1. Digitizer / Synthesizer BASIC program

```
  1 REM put 125 x's here
  2 REM DIG/SYN, Jan 1990 Albrecht
  3 LET digit=26719: LET synth=26778
  4 LET begin=26715: LET end=26717
  5 DEF FN h(x)=INT (x/256)
  6 DEF FN l(x)=x-256*FN h(x)
  8 FOR x=26715 TO 26836: READ a: POKE x,a: NEXT x
 10 DATA 48,117,48,237,118,243,42,91,104,17,255,255,27,62,0
 15 DATA 122,163,254,255,219,254,203,119,40,243,115,35,114
 20 DATA 35,17,255,255,27,62,16,122,163,254,255,219,254,203
 25 DATA 119,32,243,115,35,114,35,58,94,104,188,32,210,58
 30 DATA 93,104,189,48,204,251,201,118,243,42,91,104,17,255
 35 DATA 255,94,35,86,35,19,62,0,211,254,122,163,203,119
 40 DATA 254,255,32,243,17,255,255,94,35,86,35,19,62,16
 45 DATA 211,254,122,163,203,119,254,255,32,243,58,94,104
 50 DATA 188,32,210,58,93,104,189,48,204,251,201
 55 POKE begin,FN l(35000): POKE (begin+1),FN h(35000)
 60 POKE end,FN l(65000): POKE (end+1),FN h(65000)
```

Listing 2. Digitizer / Synthesizer source code

```
;*************************
; DIGITIZE / SYNTHESIZE
;
;January 1990   albrecht
;*************************
;
ORG 26715
;
BEGIN     DEFW 30000
END       DEFW 60720
;
DIGIT     HALT
          DI
          LD HL,(BEGIN)
loop1     LD DE,65535
loop2     DEC DE
          LD A,0
          LD A,D
          AND E
          CP 255
          IN A,(254)
          BIT 6,A
          JR Z,loop2
          LD (HL),E
          INC HL
          LD (HL),D
          INC HL
          LD DE,65535
loop3     DEC DE
          LD A,16
          LD A,D
          AND E
          CP 255
          IN A,(254)
          BIT 6,A
          JR NZ,loop3
          LD (HL),E
          INC HL
          LD (HL),D
          INC HL
          LD A,(END+1)
byte      CP H
          JR NZ,loop1
          LD A,(END)
          CP L
          JR NC,loop1
          EI
          RET
SYNTH     HALT
          DI
          LD HL,(BEGIN)
loop10    LD DE,65535
          LD E,(HL)
          INC HL
          LD D,(HL)
          INC HL
loop20    INC DE
          LD A,0
          OUT (254),A
          LD A,D
          AND E
          BIT 6,A
          CP 255
          JR NZ,loop20
          LD DE,65535
          LD E,(HL)
          INC HL
          LD D,(HL)
          INC HL
loop30    INC DE
          LD A,16
          OUT (254),A
          LD A,D
          AND E
          BIT 6,A
          CP 255
          JR NZ,loop30
          LD A,(END+1)
byte2     CP H
          JR NZ,loop10
          LD A,(END)
          CP L
          JR NC,loop10
          EI
          RET
```

It doesn't seem that long ago that from the land where folks had empty coal buckets at home came the $99 Sinclair ZX-80 computer, the next year the ZX-81. I got hold of the ZX-81 ROM and dropped it into my ZX-80. What computing power! One program I entered took 23 minutes to give me an answer after I pressed the ENTER key (it was the right answer). 1985 brought me a TS-2068 for my birthday. I didn't feel I needed it but when I unplugged the $29 ZX-81 and plugged in the TS-2068, I couldn't go back. Shopped and compared and got a LarKen disk drive interface; plugged it into a 3 1/2" drive — 100 programs — felt like a hard drive. Magazines and newsletters provided more information than anything I could have learned hacking around, from Canada came some of the best. These writings are the life blood which kept the users going so long after the manufacturers abandoned us.

Well now, one of my favorite newsletters signed off in the same elegant fashion that they maintained throughout their twelve year history. When we read that they might stop publication we wondered what could be the problem up there? The articles seemed so strong and informative. ZX-81, TS-2068 and the QL were all well represented. Canada users seemed light years ahead of our midwest groups in learning about their machines and were bringing us up to speed through SINC-LINK newsletter

It seemed that there were so many readers. So sure were we that there was still great interest in Sinclair computers north of the border that we sent all the known members listed in the final issue free copies of ZXir QLive Alive! newsletter to keep the Canadian Sinclair users connected. Two replies came pouring in.

Was this due to the fact that the quality of the SINC-LINK newsletter was so much better than ZQA? No, I don't think so. George, you said the TTSUC group had "BECOME LONG IN THE TOOTH", guess you were right - we, down here, just didn't see it coming.

Articles from George Chambers, Larry Crawford, Bob Mitchell and others were always what we, LarKen users, waited for, while our QL owners scanned the pages for Hugh Howie's QL articles. Jeff Taylor must have kept the whip cracking for new articles and with the help of Print Factory, written by the Boisverts, put out one of the prettiest newsletters we'd ever seen. I want to tell you folks that the CATUG group, for one, could hardly wait the two months to see what new treat SINC-LINK would give us next.

Well done, Canada - Jeff Taylor - Bob Mitchell - Bill Lawson - Louis Laferriere - Larry Kenny - Hugh Howie - Larry Crawford - Howard Clase - George Chambers - René Bruneau - Eric & Kris Boisvert - Andre Baune - you guys showed us some class, your work was top notch!

Thanks to so many Canadian users, we now have the utilities to make good looking newsletters - cards - banners, make sprites, read IBM text files, change any bit on a disk to suit our needs, all sorts of new LarKen printing and disk management utilities, even rebuild the directory track on the LarKen disk if needed - the Canada users were our PETER NORTON.

We, stateside users, hope you don't retire your setups completely so that we might get help from time to time. The challenges of Sinclair computing are still out there.

George, what I hope is that you can still find time to inform us, LarKen users, how to convert those SNAPS that run on the ZX-81 emulator to LarKen NMI SAVEs. LarKen still doesn't have a utility to check disk drive speed either. We feel that the Canada group may be the only ones that can figure that out for us. So you see, there was some work left that needed doing.

As for the state side Timex/Sinclair users - WE ARE STILL ALIVE! T/SNUG continues its newsletter with a few more members every year as user groups dissolve. T/SNUG has a BBS to pass Sinclair related files and dialogue. Michigan's QBox-USA BBS not only continues to support Sinclair machines but also supports those who switched to an IBM platform supplying help for QXL users and Z80 emulator users to run both Spectrum and TS-2068 programs. We are very fortunate to still have Mechanical Affinity, RMG, UPDATE! Magazine and others to support.

Chicago Area Timex Users Group

We are really grateful for what all of you in Canada have given us over the years including great friendships!

--==GATOR==--

Bob Swoger

Daisy Be Good - IV

by David Lassov

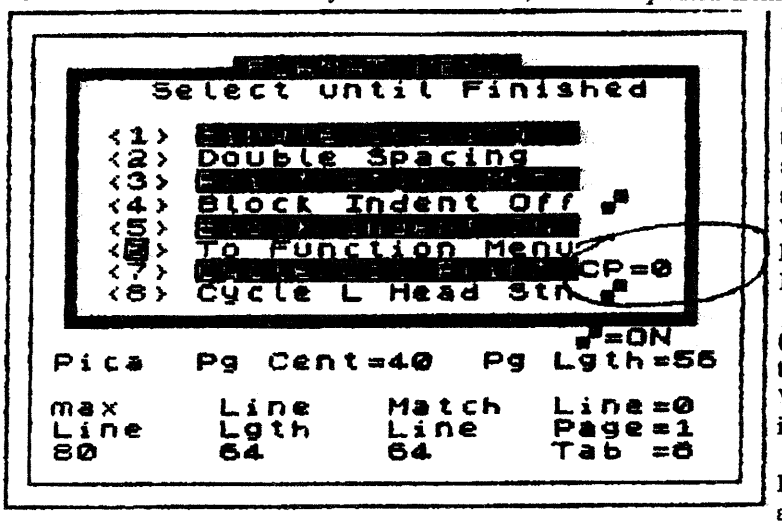
Welcome back !! Let's get the FUNCTION MENU on the screen, by LOADing Daisy.B6 and pressing 3 2 1 y y y, in succession.

We have included a sample Function Menu, without all the numerical entries, which are calculated and filled in by Daisy. This is to make graphic our progress through the discussion of Daisy.B6 . For, you see, we have already discussed LOADing the Function Menu; everything that happens, when you PRESS 1; and, everything that happens, upon Pressing 2. This time, we're gonna PRESS 3 for "Format Menu". Please notice the enclosed COPY of the Format Menu, without any of the numbers filled in yet by Daisy.

Just after "3" is pressed, the request, that you "Please stand by. ..." appears on the screen. This is necessary, while the FORMATting software is MERGEd into our Word Processor, Daisy. Next, up comes our Format Menu, with initial values for the numbers, already filled in.

Right now, Bill Jones has selected <1>, for single spacing. Double spacing can be selected, instead, and the little mark, moved from <1> to <2>, by pressing <2>.

A PRESS of <3> brings up the Print Style Menu, which is necessary to prepare the attached printer for any PRINTing, to be done at this particular keyboard session. Since the Style Menu is such a big and important topic, and it's coming up pretty soon as the last item on the Function Menu, we defer its discussion till then.



Should you desire to LPRINT the next portion of text, centered and with a Tab, which is any multiple of 5, then all you need to do is PRESS <4> and <5>, respectively, in order to decrement and increment the "Tab =" setting by 5. The "Line Lgth" setting will be decremented and incremented by 10, in order to maintain the "max. Line" setting, as shown, beneath the current "Print Style." Initially, the print style is PICA, which has a "max. Line" of 80 characters, E.G., Elite print style has a max. Line of 96. PRINT style is one of the things, which is selected at the PRINT Style Menu, <3> .

Bill's 24-pin printer is different, than our 9-pin printer in several ways. Apparently, he can select different line spacing by button or dial on the printer enclosure. You can select the starting page number of the next report being printed; also, the line number down the page, at which to begin PRINTing. Tell Daisy what line length and TAB you are using, and you are back at the Function Menu.

Of course, you can go back to the Format Menu and PRESS <3>, in order to bring up the Style Menu, where you can inform the printer (electronically, of course) of all your fancy desires, as selected at The Format Menu. Or, you can first select <3> at the Format Menu to "set" your printer, and later PRESS <6> at the Format Menu, in order to keep the Daisy software apprised of your print style desires. Just be certain to SET your printer, before any printing be attempted.

- Ah, yes, <7> selects Column Printing, either column #1 or column #2. Printer Line Spacing, starting line number, and starting page number are next selected (for the column print), before the Function Menu is brought up, again.

The last item: <8> Cycle L Head Stn, cycles for letterhead stationery, in the sense, that you might be feeding your printer SINGLE SHEETS of paper. Well, in the case that these single sheets have letterheads, then you will need to skip over the top 12 lines of print, before beginning your letter. A PRESS of <8> at the Format Menu will toggle this function OFF and ON.

Let's see, now. We have discussed everything on the Format Menu, except "Pg. Cent=40", "Pg. Lgth=56" and Match Line 50" . In order, they refer to the center column of the page (as 40, or half of the "max. Line";) the currently specified number of print lines per page (=56;) and, the NEW number of characters per line, which will yield a NEW print line with margins, which *match* the margins of the *old* print line, printed with the *old* number of characters in the *old* print style (used when changing from *old* print style to *new* print style.)

Next time, we'll talk about item #4 on the Function Menu, Data Status.

Greetings ! In this article, we expound upon the glories of the new and improved routines ManlAd, PO+MM, IN+ED, and DBMS, which we *pirated* from Bill Jones' suite of Word Processors, called Daisy. This was desirable, in order to bring Bill Jones' outstanding software for the 2068 out of the closet and into the '90s, where someone could use it, without going into HOCK. Please, call it An Exercise In Merchandising.

We LOAD dbms.B6 (turbo=0,) and the Function Menu comes right up. We PRESS #3, and nothing happens.

We LOAD IN+ED.B6 (turbo = 1,) and the FM comes right up. We *press* #3, and nothing happens. Of course, item #3 calls for the Format Menu, which refers to FORMATting the PRINT line and page, whereas IN+ED performs only input/edit and DBMS is only a gateway to various data base management systems. So, we LOAD ManlAd or PO+MM, which charges forth with our SOL banner; 3 2 1 y y y brings up the Function Menu; and, *pressing* #3 introduces us to the Format Menu.

We have had to customize Daisy, in order to *match* our printer. Thus, the only new improvements involve items 3, 6 and 7.

#3, "PRINT Style Menu", is different, *only* in the sense that the PRINT Style Menu is different. Indeed, customization can be limited to the PRINT Style Menu, if you're not using Bill's particular 24-pin printer. But, we need speed, speed, and memory, memory, ... So, our customizations continue.

#6, "To Function Menu" has no code for selecting line spacing, etc., only new line length and new TAB.

Lastly, #7 also displays CP=0, CP=1, or CP=2, accordingly as column printing be cycled between *no* column, *first* column, or *second* column, respectively.

Seeya next time !!!!

QL Hacker's Journal

by Tim Swenson

Editor's Forumn

June 1995

This issue of the QHJ is a little smaller that I would like. I've been busy getting ready for the QL show in Oak Ridge, Tennessee. This is the same show that has been held in Newport, Rhode Island, but Bob Dyl wanted to try a different place this year.

I've been busy making some distribution disks of some QL programming freeware, verifying the entries in the Sinclair INTERNET Resources List, printing up this list, printing up a hard copy of the QHJ, MausNet, and Z88 e-mail lists, spending a week on a trip to Pensacola, Florida (It's tougher when you travel with 2 kids), and all the other QL related stuff I do normally.

For those QHJ readers on the net (which is most), you might know that the QL Mailing list that was maintained by Beppe Zannetti is no more and has been sort of absorbed into the QHJ e-mail list. I've also been asked to break out the MausNet readers out of the e-mail list. Due to bandwidth restrictions, it turns out that it is better to mail the QHJ to one MausNet reader and have him post it to the MausNet QL news-group. So that others can use either of these mailing lists, I plan to put them on the QL Anon-FTP servers (those in Finland, Norway, and Italy).

I've noticed that the Sinclair (Spectrum/ T/S 2068) mailing list is now gone. This means that T/S 2068 and Spectrum users have no mailing lists. I've also noticed more ZX81 interest on comp.sys.sinclair, some from people that have recently picked up older machines at a flea market (or boot sale for those on the other side of the pond), and others that have discovered the various emulators available.

I would like to start a Master Sinclair E-Mail list. I hope to create an Archive database with users names, e-mail addresses, and what computer they have. From this database, I can generate any e-mail list I want (with names or just the e-mail address). If you know of anyone out there that would like to be on a Master Sinclair list, have them send me an e-mail note. It is the ZX81, Spectrum, T/S 2068, and Z88 users that I need the most. I think I've got most of the QL users out there. I don't plan to make these mailing lists into a LISTSERV type of system (collecting then redistributing Sinclair e-mail message), but more as a phone book to look up Sinclair persons and to use when wanting to do a mass mailing (instead of a USENET posting).

As mentioned above, I've prepared a more up-to-date Sinclair INTERNET Resources List. It contains a list of Sinclair FTP sites, Gopher sites, World Wide Web Sites, Mailing lists, USENET Newsgroups, etc. Like the e-mail lists, I will put a copy on the three Anon-FTP servers.

One project that I am thinking about working is another version of the Structured SuperBasic (SSB) filter. For those that don't know SSB, lets you write SuperBasic programs with no line number and indenting, and will add the line numbers for you. I'm thinking about adding support similar to that found in the C preprocessor, such as; #define, #ifdef, #end, #elseif, etc. I also plan to compile the program and make it all available on the three Anon-FTP servers. I'm looking to see if there is any interest out there for this. Let me know.

In QHJ #19 was an article on the Soundex algorithm. For some odd reason I could not get the code to compile. I know I had to be missing something. Peter Tillier found what I was missing. In the comment preceding the FOR statement, it is terminated with a * and not a */. This comments out a bunch of code until the next */. Don't you hate it when it's the little things that get you?

Per-Erik Foreseen of Sweden, where my great grandparents came from, has provided the QHJ with it's first article dealing with assembly language. I'm glad to have it, since a number of you commented in the readers survey that you wanted to see articles on assembly.

QHJ Freeware Awards

Last Issue I introduced the QHJ Freeware Awards and asked for votes on programs for each category. My original idea was to decide the awards myself, but I felt it would be a good idea to get your input. Well, after getting only one response, I did have to decide the awards myself. At least I gave it a shot. Below is the list of categories and the winners. After each category I will give a short discussion on why I chose that particular winner. Since this is the first year for these awards, I have expanded the criteria for consideration to include any Freeware program up to this point.

Best Pointer Environment Program:

MineField by Phillipe Troin

Of all of the Freeware PE programs I have seen, MineField stands well above them. MineField looks and feels like a professional PE program. It uses a number of PE features in the same manner that other PE programs do (like QPAC2). A number of different mouse cursors are used. The skull and crossbones cursor when you lose and the thumbs up cursor when you win are nice touches. I've seen some other freeware PE games, but none look as excellent as MineField. It's design and development shows an in-depth knowledge of the PE by Phillipe. If you wanted a program as an example of how to do PE programs, MineField would be that example.

Best Non-Pointer Environment Program

QED by Jan Bredenbeek

I know this program has been around a while, but as far as an impact in the QL community, I think few programs have gone as far as QED. QED is the standard text editor distributed with any program package that needs one (like C68, Intergroup Freeware Exchange, etc.).

Best Port to QL

ZIP/UNZIP by Erik Slagter

There were a lot of contenders in this category. A large number of programs have been ported to the QL. Most have been ported directly, with some consideration for the special needs of the QL. ZIP/UNZIP has taken the functionality of the most popular archiving program, brought it to the QL, and added support for the QDOS header information so that executables will archive well.

Best Language or Language Utility

C68 by Dave Walker

No other compiler has done as much for the QL as C68. C68 has provided many users a full K&R C compiler which allows them to either write their own programs or port programs to the QL. It is a very comprehensive and complete C compiler.

Best Programmer

Jonathan Hudson

Jonathan Hudson has written programs that have dominated communications on the QL. QeM, QTPI, and QFAX are the standards in QL communications. Jonathan has consistently written solid programs with few bugs.

Well, there they are. The First Annual QL Hacker's Journal Freeware Awards. I have made up some award certificates (I had to learn Page Designer 3 to do it) and I will mail them to all of the award winners.

Next year I would like to keep the contenders down to just those programs released in 1995 - mid-96 time frame. I would also like to get a little more input from you the reader. I don't mind coming up with my own winners, but I do not get a chance use all freeware programs, so I can't make a very informed decision.

JOYFU or Find The Missing Contruct

JOYFU when sounded out means "Joyful, with no L" or as it is really supposed to be sounded out "Joyfull Noel." The lack of an L turns one word into two.

This is sort of an interesting introduction to missing letters or contructs. I happen to read a DoD journal called "CrossTalk, The Journal of Defense Software Engineering." Most of the journal is either on Ada or above my head. The best part of the journal is the "Curmudgeon's Corner." It's a sort of rambling article, written by Robert Bliss, talking about software topics.

In this last issue, Robert talks about missing letters.

Robert writes:

"The intentional omission of words was the motivation behind Georges Perec's 1969 novel 'La Disparition.' The author created a lipogram, a work in which something is prohibited, in this case any word containing the letter E. Perec wrote the work in French, which uses E for almost everything. When he completed 'La Disparition', Georges Perec realized he now had an abundance of unused words containing the E left over. So he wrote his next work, 'Les Revenentes', with E as the only vowel used. (Do you ever get the feeling that some people have far too much time on their hands?)"

Robert then ponders how interesting it would be to write software where a contruct is prohibited. I know that the GOTO command has suffered this prohibition in the past with a number of very well known articles. But, would it be possible to write something with out a FOR loop, or a WHILE statement. I doubt that you could write something without a IF statement, but it might be possible. An interesting demonstration of this would be a few code segments that would demonstrate how one would build a replacement for any particular contruct. How you would write a FOR loop with a WHILE statement, how you would write a WHILE statement with a FOR statement, etc. I remember back in Computer Architectures class we were told that an entire computer could be constructed of only NOR gates. They showed how every other gate (OR, AND, XOR, NOT, etc.) could be constructed with a number of NOR gates (I think it was the NOR gate).

I'm hoping someone will take this challenge and produce some code. It's the little puzzles like this that make programming fun.

Language Design Principles

Jon Bentley has been around computers for years, spending most of his time with AT&T Bell Labs (the birth place of UNIX and C). In an article in "UNIX Review", Jon mentions some guidelines on building languages. I thought these guidelines also apply to writing other programs, so I thought I would pass them along. The items below are taken from the article. My comments are in []'s.

[Jon discussed his ideas with a few major points listed below.]

A Zoo of Examples. Start with the zoo to define your problem, use it for testing throughout development, and put the best examples into the documentation.

- If you are doing a graphing program, start with a number of example graphs that you want to be able to create using your program. Use them to help you decide what type of features you want your program to support.

[You could also think of all of the strange cases in which your program might blow up at. This would provide a good zoo of examples.]

- A Working Description. Create a one- or two-page outline of your Language to ensure a cohesive design.

[Clearly defining your problem at the start will have headaches in the design and coding process.]

- The User's Manual. Document your language or GUI's goals and architecture from the user's perspective.
- To create a program that is designed for the user, write your documentation first, describing how you want the program to run, and then write your code based on this. It's too easy to take short cuts in programming, because it's easy to implement and not easy to use.

[Writing the manual afterwards may base the functionality on the program and not how it's supposed to interact with the user. Focus on your user interface and functionality, then work on the code.]

[A sidebar to the article had a listing of Language Design Principles that complement the article.]

Language Design Principles

- Design Goals. Before you design, carefully study the problem you are trying to solve. An old rule of thumb states that the first 10% of programming effort provides 90% of the functionality; can you make do with a small implementation that cheaply provides for the 90%, or do you have to use more powerful tools to get to 99.9%.
- Simplicity. Keep you language as simple as possible. A smaller system is easier for its implementers to design, build, document, and maintain and is easier for its users to learn and use.

Yardsticks of Design

Here are some desirable properties of interfaces:

- Orthogonality: keep unrelated features unrelated.
- Generality: use an operation for many purposes.
- Parsimony: delete unneeded operations.
- Completeness: make the system implement all operations of interest.
- Similarity: make the interface as suggestive as possible.
- Extensibility: make sure the system can grow.
- Openness: let the user "escape" to use related tools.

The Design Process. Like other great software, languages are grown, not built. Start with a solid, simple design expressed in a succinct notation. Before implementing the language, test your design by performing a wide variety of operations. After the system is up and running, interate designs to add features as dictated by your customer's needs.

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Some are QXL NOTES

by Al Teng

As of the beginning of July, the QXL's operating system (SMSQ) is at v2.57.

The enclosure noted that the SDATE function now returns the proper date if input by the user. In previous versions, I observed that some $trings were prematurely truncated; and, though this is not mentioned as being corrected, it has been.

The video remains diminutive, though I recall that there was a note included with the distribution suggesting that the documentation on the pointer environment be consulted (Oh, really!?!).

The TURBO compiler still returns ERRORs when simple BEEP statements are included, among others.

DISK TAGs

There is a new feature starting (and, hopefully ending!) with SMSQ v2.57 —DISK TAGs (my designation). The TAG consists of an additional label to the file header which identifies any valid, physical medium in the system with either "QDOS" or "MSDOS" followed by the medium's density (DD HD ED). This is either a blessing or a curse, depending on your point of view.

The observant reader will note that "ED" disks are identifiable. I don't know if this is a carryover from SMSQ/E for the SUPER GOLD CARD, or if you can actually read/write to ED drives with a QXL. Of course, the latter would suggest a new, QXL-only, ED format since 2.88 meg capacity is NOT compatible with the (SUPER) GOLD CARD's 3.2 meg capacity.

One of the things that I really don't like about the TAG is that it gives a spurious label to the QXL's WIN0_ drives. The WIN0_ drives are tagged with "DD" since a separate provision was not made for WIN0_ drives such as "WD". Clearly, the operating system is looking for the "next" highest TAG, and failing to find one, it cycles back to the next possible option (i.e., DD). This will surely be "corrected" with the next release.

While the TAG may seem like a clever idea, in practice you will NOT find it difficult to quickly differentiate between DIRectories unless you suddenly get into the strange habit of using the "dot" delimiter for EVERYTHING instead of the "underscore" that QDOS uses.

In an effort to "eliminate" the spurious "DD" tag on my QXL WIN0_ drives, I did try reformatting one of my partitions under the new SMSQ just in case there was a change in the FORMAT routine. The spurious label remained.

Consequently, the new versions of QLAMBer and QLuMSi have been re-coded to ELIMINATE the TAG.

TASKMASTER and QRAM

From what I can tell, TASKMASTER can NOT be run on a QXL. While there are some advantages to TASKMASTER over QRAM, I have always found the 'CTRL C(ascading)' toggle a much more convenient way to TASK Switch QDOS programs; and, QRAM's core code is bundled with the SMSQ operating system.

Having said that, there was a query I read somewhere that I wish to address regarding bypassing the TASKMASTER's DATE setting routine [relevant to (SUPER) GOLD CARD users].

The key to bypassing TASKMASTER's DATE setting routine is to avoid it. Now that probably sounds "stupid", since that is precisely what those who are encountering THAT screen are trying to do.

So, how do you avoid the DATE setting routine?

Of course it was an accident that I discovered the so-

lution to this vexing problem. In fact, I was perplexed the first time I LOADed TASKMASTER and the DATE setting routine did NOT appear! A quick examination of the disk's DIRectory revealed the answer.

If you look at the "Super_Boot" you will see that there are two related files: Last_Time & Set_Time. So, the simple solution is to DELETE or RENAME (suggested) the two related files from your start_up disk and TASKMASTER will progress to its next phase.

Now, I have to admit that I have some START_UP disks where this works, and other disks where TASKMASTER balks at LOADing. I haven't investigated why this happens; so, this may-or-may-not work for you.

SMSQ WIN()_ CORRUPTION

I had previously related an earlier-and-recurrent problem which I had thought might have been the result of my mis-use of the FDREAD and FORMAT programs (C. Hochstaetter) in concert with earlier versions of SMSQ. This might have been the case, but I now suspect that the problem lies elsewhere.

I have to say that this might be due to the SuperStor Data Compression, so I made contemporaneous backups of ALL the files, and then re-FORMATted the partition, re-compressed the drive, and they replaced the files from the tape that I had.

I then decided that the size allocation was larger than it had to be, so I re-FORMATted the WIN2_16 from the original 24 Megs. This house-keeping should have solved the problem; but, after some time, the WIN2_ became corrupted, AGAIN!

Well, AFTER the third re-FORMAT, I finally noticed that my WIN2_ drive had an "out-of-balance" sector count — something like 51226/32768.

The problem is that the QXL.WIN file on DRIVE D: was still the original size! Oy!

I cannot say exactly when this sector imbalance transpired. It may have become imbalanced immediately after the QDOS re-FORMAT to a smaller size; or, it may have occurred sometime thereafter. Either way, I might have noticed this sooner, if the net viewing area on a "regular" VGA monitor was larger than 9.5" diagonally.

So, the process was the same as previously noted:

1) determine which is the "last" readable file;
2) WCOPY all "good" files to another medium (e.g., disks on flp2_)
3) exit to DOS
4) delete QXL.WIN from the associated DOS directory

NOTE: make sure you are in the proper drive for the particular WIN()_

WIN1_ is on C:
WIN2_ is on D:
WIN3_ is on E:
WIN4_ is on F: et cetera

5) return to SMSQ
6) FORMAT WIN()_megabytes_size
7) WCOPY files from your backup back to WIN2_

When in doubt, transfer files to a floppy disk since the WIN()_ might hang up on a "bad" file.

I was going to say that I hadn't had a recurrence of the WIN()_ corruption; but, a READ/WRITE problem did crop up a week ago when I got a "medium full" message with about 12 meg of free space available. I'll keep you posted.

FALKENBERG KB Interface.

The FALKENBERG keyboard interface has been around for several years now, but it is worth "looking at" in light of the fact that the latest version of the HERMES "chip" is supposed to incorporate a PC-AT KB interface, too; but, the new HERMES "chip" appears to have a price which is similar to the price of the old HERMES chip plus the cost of the FALKENBERG KB interface.

The main reason to consider an alternate keyboard to the original QL keyboard's bubblemat-and-matrix combination is for KB continuity, if you have frequent occasion to use a PC keyboard somewhere else. This is also true if you do a lot of keyboard entry — numerical or word processing.

The KB interface is expensive (about $100); but, the price may come as the gotta-have-it-first group of QL users move on to the new HERMES chip and board.

Whichever KB interface you might ultimately select, you probably won't be sorry. I'm glad I have a FALKENBERG interface because I still use my standard QL (w/ GOLD CARD) a lot, simply because the QXL is incapable of compiling S(uper)BASIC code.

UNINTERRUPTABLE POWER SUPPLY

Several months ago, I got the UPS (uninterruptable power supply) and TAPE BACKUP that I had previously contemplated. Unless you only play games, the UPS is a good idea no matter what computer you are using. It seems like a particularly good investment to protect a QXL card from any jeopardy.

While I experienced power outages with every-other thunder-storm when I lived in Taos, this has not been a problem while living in Albuquerque. Of course, the weather-wise might suggest that it is because it has NOT rained in my neck-of-the-woods for the past two Summers! Still, living "in the city" is no assurance against a power failure — construction crews with a back-hoe have been known to have the same net effect as a lightning strike in the nearby mountains!

The price on smaller units seems to have come down by about 33% in the past year; so you should not have a problem to find a 250 VA unit for under $80.

The UPS may be one of the better computing investments I have made (behind the QL, the FALKENBERG keyboard interface, the GOLD CARD, the QXL, and DBEasy ... not necessarily in the particular order listed).

So, my power to my QXL is stable. I just hope that "original" QXL users who bought their QXL's a couple of years ago continue to receive uninterrupted SMSQ upgrades until the operating system is considered to be stable.

HAPPY TRAILS,
AND COMPUTING, TO YOU ...

WINDOWS BY SHADE - PART 3

I am enclosing two copies of the program listings of both versions of my LKDOS extended BASIC data entry demo programs divided into sections, including the LKDOS extended BASIC window operations section which needs to be converted to machine code.

Both of my LKDOS extended BASIC data entry demos, Timex & LKDOS extended BASIC lines of programming, are configured identically each having three sections.

Please give a floppy disk and listings of my Timex & LKDOS extended BASIC data entry demo programs to any machine code programmer who is interested in working with me to complete this project.

The first section of Timex & LKDOS extended BASIC is the 'LOADER' section. This section uses program lines 0 to 99. This section is used for Timex DELETE / MERGE operations. This section first DELETEs the lines of Timex & LKDOS extended BASIC of the existing Implementation Program and then MERGEs in and starts the next Implementation Program from a floppy disk.or RAMDISK. This LOADER section can also be used to LOAD machine code blocks, fonts etc. above RAMTOP as needed by a specific Implementation Program. This is the only program that I am familiar with that takes advantage of the powerful Timex DELETE / MERGE functions.

The second section of Timex & LKDOS extended BASIC is the Implementation Program' section. This section uses program lines 100 to 9799, An Implementation Program is the program That does the work / job the user needs done, When the work of the existing Implementation Program is completed the user is presented with a menu from which to select one of several different types of work / jobs to be done next. The existing Implementation Program then does a GOTO to one of the lines in the LOADER section and the existing Implementation Program lines are DELETEd and the next Implementation Program is MERGEd in from floppy disk or RAMDISK and started. This Implementation Program could do the same job as the Implementation Program in the two LKDOS extended BASIC data entry demos, which is <I> Data entry. The Implementation Program could also be used for <2> Data editing. <3> Label or page printing. <4> Disk or tape (load / save / catalog / erase / verify). <5> Data encoding / decoding. <6> Data graphing. <7> Setting / reading the real time clock, <B> Cueing audio / video system equipment <9> Switching process control devices. <10> Reading / assessing / PLOTting sensor data. There are many more types of Implementation Programs than the 10 types LISTed above. Some Implementation ProgramS can be setup to do two or more of the above operations. There is a RAM usage reciprocal between the size of the Implementation Program and the size of any files held in STRING$ variables or above RAMTOP in data buffers. The larger the file size, the smaller the Implementation Program size must be and vice versa. With 100 lines to be used for DELETE / MERGE operations a huge program, larger than the whole usable RAM when empty, could be divided into separate Implementation ProgramS while still providing considerable file space, as large as three tracks of data from a LarKen format disk, A large program, broken down into as many as one-hundred Implementation ProgramS, would provide more functions than any program that has been written for the TS-2068 computer to this date.

The third section of Timex & LKDOS extended BASIC is the 'Core Routines' section. This section uses program lines 9800 t 9993. This section contains all the Timex & LKDOS extended BASIC operations most frequently used by most Implementation ProgramS These o operations are reached b GOSUBs from the Implementation ProgramS. Each Core Routine operation ends with a RETURN to the Implementation Program The Core Routines include such Timex & LarKen extended BASIC operations as <I> Set printer codes. <2> Printer part output / polling. <3> Timex font start addresses setup. <4> LarKen font start addresses setup. <5> Open / close setup (size & position) / set (ink & paper colors) / clear & reset / set x - y print positions / fill (specific screen area) for all three LKDOS windows. <6> Timex PRINT #0 clearing / menus & notices. <7> LarKen menus & notices. <8> POKE screen printing parameters into the parameters buffer above RAMTOP. <9> PEEKing the 64 character storage buffer data into STRING$ variable. <10> Drawing Timex borders. <11> Setting / reading variables from DATA statements. <12> Year checker. <13>Month checker. <14> Day checker. <15> Hour checker, <16> Minutes checker. <17> Seconds checker. <18> Disk utilities operator. <19> BREAK enable-disable operator.

Both of the Timex & LKDOS extended BASIC data entry demos setup RAMTOP at 60551 and divide the upper RAM into eight parts.

First is the LarKen disk utilities #1 block by Jack Dohany from address 60552 to 60807. These routines provide reports <I> Whether a disk in the current drive is protected, not protected, or absent. <2> Whether a given file exists an disk. <3> The number of total and free tracks, <4> The number of the current drive (0 to 4). These utilities allow the program to check the drives and current disks in those drives to protect the user from SAVEs to and LOADs from the wrong or a full disk.

Second is the BREAK utility block from Jack Dohany from address 60813 to 60893. This routine can be enabled / disabled and is used to prevent program halts at the SCROLL notice when the screen is full and when a disk filled with files is CATaloged.

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Loader Routines

Because this demo only has one Implementation Program there is no need to use the timex DELETE / MERGE operations. To use the DELETE / MERGE operations, a dummy REM statement must be added at line 100 of the empty program so the delete operation will not cause a program halt.

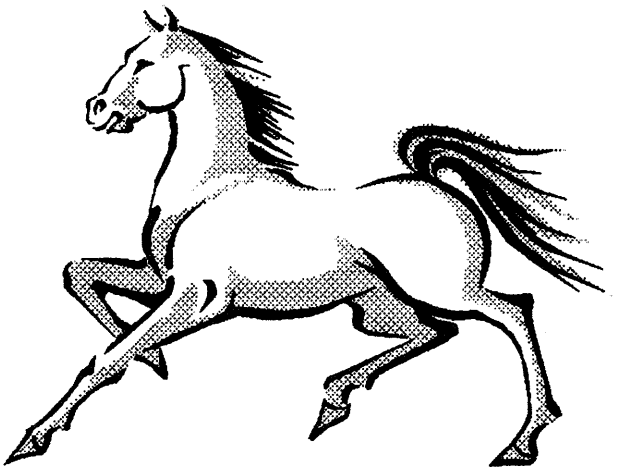
```
10 CLEAR VAL "60511": LET A=SGN PI: LET
 B=SGN PI: LET C=SGN PI:GO SUB 9873: LET
 W$= "
 ": LET A=SGN PI: LET B=SGN PI: GO SUB
 VAL "9872": POKE VAL "23658",VAL "11":
 PRINT #VAL "4":LOAD "DECODE,C1"CODE VAL
 "60552": PAUSE VAL"10": PRINT #VAL "4":
 LOAD "FONTS1.C1"CODE VAL "62460"
```

Timex Basic 64 Character Storage Buffer Clearing Routine With Parameters For Compiling With TIMACHINE

```
  10 REM ! INT +X
  20 REM ! USR 62304
  30 REM ! OPEN #
  40 FOR X=62390 TO 62454: POKE X,0:
    NEXT X
  50 REM ! CLOSE #
9994 STOP
9995 PRINT #4: SAVE "DATACL.B1"
9996 STOP
```

Demo program Timex BASIC part #1 the data entry routine with parameters for compiling with TIMACHINE

```
900 REM !LEN Z$<=1
910 REM !INT +A,B,C,E,G,J,Z
950 REM !USR 60899
960 REM ! OPEN #
1000 BEEP .004,10: LET Z=1: POKE
62390,Z: LET J=1: POKE 62385,J:
POKE 23658,8: LET C=PEEK 62377: LET
E=PEEK 62379: POKE 62376,E:
POKE 62383,1; GO TO 1415
1020 LET Z$=INKEY$
1030 IF C=0 AND CODE Z$=6 THEN
   BEEP.004,40: GO TO 1280
1040 IF Z=1 AND CODE Z$=12 THEN GO TO
   1020
1050 IF CODE Z$=12 THEN BEEP .004,20: GO
   TO 1210
1060 IF CODE Z$=13 THEN BEEP .004,20: GO
   TO 1350
1070 LET G=PEEK 62381; LET Z=PEEK 62390:
   IF Z>G THEN GO TO 1020
1080 IF CODE Z$=198 THEN LET Z$="[": GO
   TO 1150
1090 IF CODE Z$=197 THEN LET Z$="]": GO
   TO 1150
1100 IF CODE Z$=204 THEN LET Z$="": GO
   TO 1150
1110 IF CODE Z$=203 THEN LET Z$="": GO TO
1150
1120 IF CODE Z$=172 THEN LET Z$="": GO
   TO 1150
1130 IF CODE Z$>=0 AND CODE Z$<=31 OR
   CODE Z$>=128 AND CODE Z$<=255 THEN GO
   TO 1020
1140 IF CODE Z$=92 OR CODE Z$=94 OR CODE
   Z$=95 OR CODE Z$=!24 OR CODE Z$=126
   THEN GO TO 1020
1150 IF C=2 AND CODE Z$>31 AND CODE
   Z$<48 OR C=2 AND CODE Z$>57 AND CODE
   Z$<128 THEN GO TO 1020
1160 BEEP .004,10: LET Z=Z+1: POKE
   62390,Z: LET A=62391+(Z-2): LET
   B=CODE Z$: POKE A,B: POKE 62375,B:
   LET A=((Z*4)+(E-8)): POKE 62376,A:
   POKE 62384,1: POKE 62383,2: GO TO
   1415
1210 LET A=((Z*4)+(E-8)): POKE 62376,A:
   POKE 62384,2: POKE 62383,3
1211 STOP
1213 REM ! OPEN #
1230 LET Z=Z-1: POKE 42390,Z
1231 IF Z>=1 THEN GO TO 1260
1240 LET Z=1: POKE 12390,Z: POKE
   62376,E: POKE 62383,1: GO TO 1415
1260 LET A=(((Z*4)+4)+(E-8)): POKE
   62376,A: POKE 62383,1: GO TO 1415
1280 IF J=0 THEN POKE 23658,8: LET J=1:
   POKE 62385,J: GO TO 1300
1290 IF J=1 THEN POKE 23658,0: LET J=0:
   POKE 62385,J
1300 LET A=(((Z*4)+4)+(E-8)): POKE
   62376,A: POKE 62384,1: POKE 62383,4:
   GO TO 1415 1350 LET A=(((Z*4)+4)+(E-
   8)): POKE 62376,A: POKE 62384,1: POKE
   62383,5
1415 STOP
1420 REM ! OPEN #
1425 GO TO 1020
1760 REM ! CLOSE #
9994 STOP
9995 PRINT #4: SAVE "DATAEN.B1": PAUSE
   20: PRINT #4: SAVE "DATAEN.B2"
9996 STOP
```



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1> TS-2068 Power Supply	$20
1> Book-Sams Beginner/Intermediate Manual	$5
1> Book-Brain Games	$5
Super Special:-- All Of The Above For Only	$40 pp.

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1> QL Computer w/Psion s/w Coleco p/s, Needs Membrane	$45
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1> Sharp 4602 Laptop, 2 720K Floppy Drives, 640K RAM 10MHZ, 2 Serial/1 Par Ports - RGB/CGA Port - 5.25" Floppy Port - 2 Battery Packs - DOS 3.30 Backlit LCD Screen - Case With Many Pockets Also Included - All In Like-New Condition. Includes AC Adapter.

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For Above Items Please Use Reference # JCU0989

CNSN 1 All Prices Include Shipping! July 6, 1995

More Items That Would Like To Find A New Home! Read This!

1 QL to PC Monitor adapter (use QL monitor on PC) Like your QL Vision monitor? Want to use it on your PC? This adapter w/ps will allow you to do that with any CGA output. $45

1 TS-2068 In Wooden Case w/Large KB/Reset/More	$65 pp.
1 DMP 430 15" Dot Matrix printer (Good Shape)	$110 pp.

For Above Items Please Use Reference # DSU1190

1 BSR 1200 BAUD External Modem Like New!	$25 pp.
1 TANDY CoCo Package	$35 pp.
1 Composite Monochrome 12" Monitor	$40 pp.
1 TS-2068 w/monitor cable for RGB	$65 pp.

1 **LarKen** DOS disk package: 2 FH drives in case w/PS, LarKen controller and cart. cables $150 pp.

For Above Items Please Use Reference # REGU0591

1 TS-1000 In KRADLE Keyboard w/added RAM A real Collector's Item!	$90
1 Melbourne House Software Pack 8 Pieces	$25
1 SOFTSYNC Software Pack, 9 Pieces	$25
1 Software Farms HI REZ Software Pack, 3 Pieces All 3 Titles For The 1000	$20
1 TIMEX Software Pack, 3 Pieces	$10
1 Magazine/Book Pack 3 Books/21 Mags	$25

For Above Items Please Use Reference # FRSU0792

1 MIRACLE QL Printer Interface	$35
1 QL Technical Guide	$10
2 AERCO FD 68 Disk Interface w/256K RAM	$100 ea
1 COLECO Power Supply For Use With FD 68	$5
1 RITEMAN 9 Pin Dot Matrix Printer	$115

Includes: Tractor/Roll Feed w/8 Ribbons Graphics Compatible

For Above Items Please Use Reference # RDSU0393

1 Timex Sinclair 1000/ZX81 Users Manual	$2.50
1 The Timex Personal Computer Made Simple	$2.50
1 Mastering Your TS1000 Personal Computer	$2.50

Collector's Items

LIPINSKI'S Software Buyer's Guide To TS Products and Services In Loose Leaf Binder $10 pp.

For Above Items Use Reference # HCU0793

CNSN 3 Last Updated: July 3, 1995

We Sure Are Getting A Lot Of These Fine Used Items!

1 PSION Suite S/W Package	$17.50
1 AMBER Composite Monitor 12"	$45
1 CUMANA QL DISK I/F w/Manual	$95

For The Above Items Use Reference # RZU0692

3 TS-1000 8K ROM Chips	$3 ea.
3 TS-1000 2K static RAM Chips	$3 ea.

For Above Item(S) Please Use Reference # JHU0692

1 TS-2068 Computer w/PS & manual	$60
1 TS-2068 Power Supply Only	$15
1 ZEBRA OS-64 Cartridge	$30
1 OLIGER Serial I/F w/Tape Software	$35
2 TS-1000 Computers w/Ps & Cables (Both)	$30
7 TS 2968 Cassette Programs (All)	$10
20 TS-1000 Cassette Programs (All)	$15

For Above Item(S) Please Use Reference # JCU1291

1 OLIVETTI Ink Jet printer PR2300 with 5 cartridges, great little printer. Ink carts. are still available from the manufacturer $115

For Above Items Use Reference # JRU0393

2 New! Headstart Buss Type 3 Button Mouse	$35 ea.
1 New! In Original Carton Suckerboard 1200b External Modem	$45 pp.

For Above Items Please Use Reference # CCU1192

1 A&J 2000 Stringy Floppy system incl. drive/Int./wafers $50 pp.

Please Use Reference #HMU0695

CNSN 6 Last Updated: June 12, 1995

Here is a real bonanza of TS and Spectrum used items!

BOOKS:

QL Service Manual	$10
ZX81 BASIC Programming	$5
Mastering Your TS1000/ZX81 Computer	$3
MC68000 Programming Pocket Guide	$5
TS2068 Int/Adv. Guide	$3
2 M68000 Programmer's Manual	$5 ea.
MTERM Telecomm Book	$5
QL Tech Manual	$15
Sinclair Survivalist's Handbook	$10

For Above Items Please Use Reference # MCU0892

Price Reduction!

Effective April 15, 1994, all new TIMEX 2068 S/W on cassette will sell for $1.50 each plus shipping with a minimum order of 5 pieces. All new TIMEX 1000 S/W on cassette will sell for $0.50 plus shipping with a minimum of 5 pieces.

1 Citizen 286/16 Computer. Incl. Case/PS/Motherboard/42Meg HD /Serial/Parrallel ports. $125 pp.
We will supply with keyboard, 3.5 or 5.25 drive and video card (VGA), 2 Meg RAM for an added $250 pp. Total package $275 pp.
1 QL computer w/origional S/W/PS/Manual. Incl. Trump Card W/512K RAM (640K total) $175 pp.

Please use reference #DWU0795

1 MEMOTECH Spreadsheet module W/docs. $12.50
1 MEMOTECH 32K RAMPAK W/docs. $12.50

Please use reference #RGU0494

CNSN 8 Last Updated: June 18, 1995

Here Are A Few Great Items For You Collectors!

1 TS1000 16K RAM, Manual, p/s, MINOT adaptor $30
1 Memopak 64K $30
1 Digital dual disk drive w p/s/fan/case/2 drives 40 tr. SS/DD 5.25"(Aerco FD/ZX) w/Aerco Centronics interface w/docs. Bill Boss DOS on disk for the TS1000. This requires the MINOT adaptor. PRO/File on disk, 6 Disks with many programs. $235
1 TS2040 Printer in original box $20
1 Memotext Module $20
1 Memotext on disk by F, Nachbauer $20
1 Memocalc Module $20
1 Memotech HRG Module Never used w/book below Graphics A to Z Bingham explains HRG $35

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1 Krakit/ 2 Frogger $4
2 ea. Budgeter/States & Caps $1 ea.
1 Algebra 1 $3
1 Carpooler $1
1 ea. Strategy Football/Puzzler/Graphic Golf Crosswd $2 ea.
1 ea. Organizer/Home Asset mgr $2 ea.

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1 Memotech Centronics interface $30
1 Cable for above $7.50
1 Advanced budget mgr. Softsync $4

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1 Execu Diary 1 Address and Phone File
1 Accounts Payable 1 Accounts Receivable
1 Inventory 3 Blank Cassettes/data
All in plastic binder $30

For above unit use reference #HCU0793

CNSN 11 Last updated: June 5, 1995

And Here Are More Collectables

1 TS1000 P/S, 16K RAM, 2040 printer FileSixty Keyboard $50

The following are $1 Each

1 Home Asset Manager 1 Home Improvement Planner
1 IRA Analyzer 1 Nowotick Puzzler 1 The Gambler
1 Stock Market Tech Analysis I 1 Stamp Collector
1 Computer Coach 1 Grimms Fairy Trails
1 The Cube Game 1 Chess 1 Stock Market Game
1 VU-Calc 1 Coupon Manager 1 Conversational Spanish
1 Checkbook Manager 1 The Gambler
1 The Starter 1 Money Analyzer I 1 Money Analyzer II

---

1 Extended Basic Tom Woods NEW $15
1 ZX PRO/File $10
1 PRO/File 1000 $9
1 Monopoly (Savage Software) $9
1 Ten Good Games (Savage Software) $9
1 Trader Jack (Savage Software) $9
1 Delphic Toot Kitw/16 Page docs $15

All Of The Above Items Can Be Yours For Only $95
For Above Unit Please Use Reference # HCU0793

CNSN 12 Last Updated: March 11, 1995

Here Are Some Items Just In!

TS-1000 Hardware:

1 TS-1000 Complete In Original Box $17.50
1 TS-1000 In Suntronics KD 81 Keyboard Direct Video Output Cables and Manual $45
1 PC8300 (TS-1000 Clone) Not Working, No P/S $10
6 TS 1016 16K RAM Packs ALL FOR $12 Or each $4.50
1 TS-1000 ROM Demo PC Board $12.50
1 Z Dubber Tape Filter/Copier For TS1000 $10
1 MEMOTECH HRG (High Res. Graphics) Pac $22.50
1 William Stuart Systems Speech Recognition/Sound Board Interface (Not Working) $15
1 ZEBRA Light Pen With Software For TS1000 $10
2 TS-1000 Power Supplies Both For $10 $5.50 ea.
1 Molded Plastic Briefcase For TS-1000 Package Holds TS1000/Power Supply/Cables/TV Switch/RAM Pack/Manual and Cassette Tapes $17.50

TS-2068 Hardware

1 TS-2068 Complete In Original Box Includes: Crazybugs Cartridge/States & Capt. Cart $55
1 ZEBRA Graphics Tablet With Interface and Software Painter 1.4 Techdraw 2.1 and Radio Shack analog Joystick $45

General TS Hardware:

2 TS 2040 Printers with power supplies $40 or $22.50 ea.
1 TS 2040 Printer With No Power Supply $10
8 Rolls Radio Shack thermal paper w/2040 adapters $10
1 AERCO Centronics printer interface w/software $40
1 WINKY Board II Tape Filter $8
1 Dual 5.25" Disk Drive Package w/Case and Power Works With Both LarKen 1000 and 2068 1/Fs $95
1 TANDON TM 100 4 5.25" Full HT 720K Drive $15

For Above Items Please Use Reference # TWUII94

CNSN 13 Last Updated: July 6, 1995

Package A

All items on this page and page CNSN-16 go as one package!

All for only $250 Postpaid!

Hardware:

1 TS 2068 Computer (Manual, power supply, cables) Power supply: 13v fully regulated
1 Suncom TAC-2 Joystick
1 Commodore 1702 Color Montior
1 Mitsubishi 3.5" SSDD (400K, 80 Track) in case with power supply and cables.
1 Larken 2068 Disk Drive Interface W/v.L3 ROM
1 Aerco CP-68 Parallel printer interface

Disk Software:

Hybiscus Ensemble (Bill Jones)
Pixel Print Plus (S. Lemke)
Omnibus V 3.039 (B.Mitchell)
Tasword Two
Menu Master (Executive Workshop)
ScreenDesign (Arrow Software)
Aerco Printer Drivers (Aerco)
Hurd LKDOS Utilities (R.Hurd)
ProFile +5 (R.Fisher)
TechDraw Jr. (Zebra)
Larken Utility Disk (LarKen)
Chambers Utilities (G. Chambers)
Vu-Calc (Psion/Timex)
Vu-File (Psion/Timex)
LKDOS System Disk (LarKen)
Novelsoft Suite (Timachine/The Worx/ZXpert/Artworx)
Logicall V 5.0 (B. Swoger)
Superdrivers (J. Dohany)
Pix-FX V 1.1 (M. Di Rienzo)
16 Point Font Pak/Mega Fonts II (S. Lemke)
Pixel Sketch (S. Lemke)
Many more titles from various sources, all with original docs.

Software Tapes:

Personal Home Finance (Timex)
Aerco CP-68 Printer driver tape (Aerco)

Books:

2068 Technical Manual (Time Designs)
T/S 2068 Basics & Beyond (S. Aker)
The TS 2068 Explored (T. Hartnell)
The Working TS 2068 (D. Lawrence)
TS 2088 Intermediate/Advanced Guide (J. Mazur)
Note: All hardware and software come with docs.

Please use reference 0 JSU0395

CNSN 15 Last Updated: July 6, 1995

Package B

Hardware

1 TS-2068 Computer w/power supply & cables, 1 TS 2040 Printer w/power supply, 11 Rolls 2040 printer paper, 1 GE Compu-Mate recorder w/power supply, 1 Suncom TAC-2 Joystick, 1 32K Non-Volatile RAM Cartridge (T. Woods), 1 ProFile Cartridge (T. Woods), 15 Blank cassette tapes

Software Cartridges:

Flight Simulator (Timex), Casino I (Timex)

Software Tapes:

Pix-FX V 1.1 (M. Di Rienzo), Font Library I (Mountaineer), TechDraw Jr. v 1.3 (Zebra), Personal Home Finance (Timex), States & Capitals (Timex), ProFile 2068 (T. Woods), Vu-File (Timex), Vu-Calc (Timex), Vu-3D (Timex), ProFile +5 (R. Fischer), Timex Software Tape, Pixel Sketch (S. Lemke), Quadra Chart (Timex), Icon Library/Icon Utility (S. Lemke), Icon Manager/Designer (S. Lemke), Mega Fonts/16 Point Font Designer (S. Lemke), Basic Toolkit (J. Kilday), The Tracer (S&K s/w), Kruncher 2068 (S&K s/w), Cassette Hea.der Rea.der (G. Russell), Tasword II (Tasman)

Books:

The Timex Sinclair 2068 (R. Valentine), Inside the Timex Sinclair 2000 Computer (J. Naylor/D. Rogers), TS-2068 Reference Guide (G. Held), , Timex Sinclair Beginner/Intermediate Guide (P. Blechman), , Crea.tive Games for the TS-2068 (R. Maunder), The Best Of The Plotter (CCATS)

Note: Documentation is included for all items except the 2068.

Please use reference JSU0395

CNSN-16 Last Updated: June 21, 1995

Unclassified Ads

Place your ads here, it is free!

Mail to: A. KAHALE 335 W NEWPORT RD HOFFMAN ESTATES IL 60195-3106

SPECTRUM for your 2068

If you are a LarKen LK-DOS owner and would like to run SPECTRUM programs on your system, we will supply a V2 EPROM, socket and 74HCT32 for $12 which includes shipping and handling. The installation instructions are in your LarKen manual. We shall not be responsible for your install job. AERCO owners need only the EPROM for $10 forwarded to LarKen.

Bob Swoger Address on page 2

747 Flight Simulator

So you like to fly, the 747 Flight Simulator for SPECTRUM by Derek Ashton of DACC. Requires a SPECTRUM equipped 2068. Supplied on LarKen SSDD or DSDD LarKen disk for $10 which goes to Derek now working at Motorola with Bob.

Bob Swoger Address on page 2

PAL Chips

Programmable Array Logic chips are available for some Timex and QL's from:-

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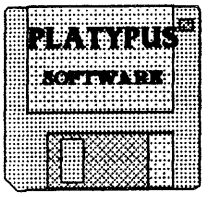

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SYSOP John J. Impellizzeri
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Z88

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DBProgs software (v1.8)	$18
DBProgs upgrade from V1.7	$7

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DBTutor software(v1.5)	$12

PC DBEasy - Just like QL DBEasy but, you must have PC ARCHIVE to use It.

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LISTing Newsletter

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613 233-2178

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WANTED : AERCO disk drive interface for the TS-1000. I will consider a purchase either with or without drives. I will even consider a repair-it-yourself.

FRED STERN
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WANTED: DEAD QL's, Spectrums or add-on boards. Will pay $20 plus shipping for complete defective units.

D WALTERMAN
PO BOX 176
TROY MI 48099-0176
810 656-4108

From Nuts & Volts

WANTED: Timex Sinclair User #2&5, T-S Horizons #1, 2, 7, 11, all after #16. Software for TS 1000 or 2068 - Conversational German (Sinclair Research Limited), Der Student (J.W. Collins), German Tutor (Creitech) or similar programs. Machine Code Tutor for the 2068 (Knighted Computers - 2 cassettes) or similar for 2068 or 1000.

DOUG WAGONER
E 4825 ST ANTHONY LN
POST FALL ID 83854-8812

FOR SALE: TS-1000, User Manual, 16K RAM module, 9v. wall transformer and Game cassette and cables. $15 postpaid.

GENE RAY
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FOR SALE: (1) TS-2040 printer with power supply and a roll of paper, works good, $20

(1) TS-1016 memory packe not tested, $7

(1) Q-SAVE fast loading device for cassette system. Not tested, $5

(1) TS-1500 computer with power supply, manual, tv switch box. Works OK. But needs working keyboard. In TS carrying case $25

(1) TS-1000 Computer with manual but no TV switch box or power supply. Not tested. $7

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FOR SALE: Available items (quantities in parenthesis)

Magazines: Sinclair (5), Your Sinclair (15), Your Spectrum (2), Elecktor Electronics USA (11), K64 Computer (1), Spanish ZX Computing (4).

Publications: SYNC 1981-1984 (20), TS Horizons 1/84 - 12/86 (19+14 duplicates), SINC LINK 11/92- 4/93 (5), Time Design (12 + 9 duplicates), SUM (1)

If you are interested act fast. Items will be negotiated as bulk or individual basis.

In addition to the magazines and publications indicated above, and there will be more, we will also be offering a lot of hardware and software. A partial list inventoried so far is as follows:

10) assorted keyboards, TI., Mitsumi, Radio Shaack etc, The whole lot for $10 plus shipping.

1) GE Cassette Recorder System? model 3-3156. Original box includes interface cables and manual. Originally designed for Atari and Commodore. $25 plus shipping.

1) TS-1000 with power supply. $20 plus shipping.

1) TS-1000 (no PS). $10 plus shipping.

2) 16k rampacks. $10 plus shipping.

Original TS-1000 programs (16K) $2each.

Call HARVEY RAIT at 516-791-6247
5 PERI LN
VALLEY STREAM NY 11581

TS-1000

FOR SALE: Oliger Expansion Board KIT (mother board) with four standard female expansion ports. Should go as a companion unit with the Oliger 64K memory board.

FOR SALE: Oliger 64K Memory Board KIT (RAM chips 4164) using the 8K to 64K area of memory. I believe all parts there except possibly the memory chips

FOR SALE: MRP Technology Memory Board set. Bare boards and docs. Uses 4164 RAM chips. Edge female connector with pass-through.

FOR SALE: HUNTER Board and docs with 1 static RAM chip, can hold three more. Works, just needs new battery.

Write and make offer including postage.

DONALD S. LAMBERT
1301 KIBLINGER PL
AUBURN IN 46706-3010

FOR SALE: Fine deal for someone within driving distance of Gettysberg. All of the following to the first person to show up with $350 cash and cart it away. Firm.

3 TS-2068's
1 TS-1000
2 2050 Modems
2 2040 Printers
2 Color Monitors
1 B/W Monitor

Many, many magazines and books with the bulk of them going back to the early 80's.

2 spectrum Emulators and other Chips.

100's of programs including many in their original boxes.

You will not be disappointed. We need the space. And we are in the Gettysburg telephone directory and live 8 miles southwest of Gettysburg.

PAUL ROBINSON

121 FRANKLIN ST
FAIRFIELD PA 17320

YOURS, FREE: Send a SASE for A&J MicroWafer (A&J Printer Software 2.0)

FRED J HENN
230 N FRENCH RD
AMHERST NY 14228-2033

BONANZA

13 Year Collection of T/S Computers

1 - ZX81 W/external keyboard and PS, (working condition but no case for kybd)
2 - T/S-000's both upgraded w/comp. video, and 16K RAM built in (docs Incl.)
one has 32K RAM (16Kx2) and one has 64K RAM (16Kx4) designed for battery backed operation. Includes two PS, manuals and one Load Aid.
5 - T/S-1500s Including four manuals, four PS , three 16K RAM packs.
1 - L/N with all cables in original box.
1 - Mounted in full size kybd, enclosure with comp. video and load aid.
1 - With composite video.
1 - With full size kybd, but no enclosure.
1 - with bad kybd. membrane.
1 - PC8300 (T/S-1000/1500 clone) includes PS but no case or manual. This unit has been modified for full 32K user RAM built in and will load and run any std. T/S-1000/1500 program. Sound can then be added as this unit has full sound capabilities. Programs SAVEd on this machine will not LOAD into TS machines, they must be typed in. (in working condition but no keyboard, but with comp. video)
(All units in working condition except as noted because of missing parts. Also all T/S machines comp. video outputs work into most TV with AUX. or monitor input or into VCR video input).CAUTION--Check all comp. video outputs before using - writer not responsible for damage to user TV/monitor or VCR.
Included Are The Following Software On Cassette:
Original T/S titles; Chess Frogger, The Gambler, Mixed Game Bag 1 and 2, Power Pack 1, States and Capitals , Super Math, The Loan/Mortgage Amortizer, Critical Path Analysis, Inventory Control and Biorhythms.
Original R. A. Jelen titles; (authored by writer)
NUMBERS Allows 1 2, or 3 players and solving from 3 to 9 digit numbers using the guessed no. of digits=R and the digits in proper sequence=S mode of play ordering and scoring.
SCRAMBLE - Uses word variable list and scrambles in large letters to screen, up to 3 players(6 or 9 in teams) with score clock.
PHRASEQUEST- 3 players with play control and scoring similar "Wheel of Fortune", but keeps track of used letters.
Tic-Tac-Toe - Large graphic display, for 1 player against the comp. or 2 players against each other.
HANGMAN - Standard favorite kids game with large graphic display and keeps track of used letters.
VIDEO - Keeps track of video library or cassettes, CD's, books etc. Easy menu driven data entry up to 32 chars., and prints to 2040.
PART - Keeps track of large no. of items, prints to 2040
FILE - Home inventory control, keeps track of household goods such as TVs, VCRs, with cursor control data entry,
MONEY - Interest compounding program.
CALCULATOR - Turn computer into an adding machine.
PRINT - Plot print program - input letters and watch them print large to screen.

All above looking for a good home. $75 plus $20 shipping, ground US only. Large box 45#. It is ALL or NOTHING

R. A. Jelen
11443 Island Rd.
Grafton, Ohio 44044
or call (216)748-3830 if you have any questions.

SINCLAIR Resources

Jack Dohany (Developer - 2068)
627 VERA AVE
REDWOOD CITY CA 94061

John McMicael (Developer - Graphics)
1710 PALMER DR
LARAMIE WY 82070

ED GREY ENTERPRISES
PO BOX 2186
INGLEWOOD CA 90305

Bill Ferebee (TS-1000/2068)
MOUNTAINEER SOFTWARE
749 HILL ST 9
PARKERSBURG WV 26104
304 424-7272

IQLR (QL)
PO BOX 3991
NEWPORT RI 02840-0987
401 849-3805

Bill Russell (QL)
RUSSEL ELECTRONICS
RR 1 BOX 539
CENTER HALL PA 16828

TEJ Computer Products
2405 GLENDALE BLVD STE208
LOS ANGLES CA 90039
24 Hr. Order line: 213 669-1418

Mark Stueber (QL)
SHARP'S COMPUTER CENTER
7244 MECHANICSVILLE TPKE
MECHANICSVILLE VA 23111
804 730-9697 FAX 804 746-1978

SUNSET ELECTRONICS (TS-1000/2068)
2254 TARAVAL ST
SAN FRANCISCO CA 94116

Send them a LSASE and ask for information about their current products and/or services.

GET OUT THE MINERAL OIL

by Bob Swoger

In his June issue of QL Corner, Bob Gilder wrote about Ruth Fegley having "oxidation problems on the interface pins and by pressing the interface towards the QL body tends to remove the oxidation." He also said Bob Malloys four computers had the same symptoms - one or more of the socketed IC's had to be reseated into their respective sockets, the QLs then operated as they should. Also, the Keyboard 90 interface had to be reseated into its respective socket.

Bob then stated "periodically, all plugged-in devices such as interfaces and IC's should be partially removed and then pushed back into their respective sockets for flawless computer operation without power on!"

Bob!, didn't you get to read NTN Volume 7 Number 5 ? It states "If you are having trouble with ICs in IC sockets, clean them with tuner cleaner if you wish. Then put some mineral oil in a saucer and dip the IC pins into the mineral oil before inserting the IC into the socket. The IC will go in so much easier!" Earlier in the article it, said; "Tuner cleaner just doesn't do the job because after the cleaning, no lubricant is left behind so corrosion will set in. Not so with mineral oil, oxygen can't get to the metal any more, so the electrical contacts last for many years."

Those ICs and connectors should have been installed with high viscosity mineral oil (Squib comes to mind) obtained at the corner drug store and applied with a tooth pick on the connector or by placing the ICs in a sauser with just a little mineral oil at the bottom as describe in the NTN vol. 7 - #5 issue.

I'm afraid that Bob Malloy and Ruth Fegley will be back doing the same time and time again until mineral oil is used on those pins and connectors. I give you this information with 30 years experience at Motorola as we have used this trick to keep our connectors from going intermittent and there ain't no more intermittent connections here in CATUG country anymore!

Motorola is one place where ICs and electronic gear are made as you might know. *So if your electronic gear is 'constipated', give it a shot of mineral oil.* It works. *Editor*